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FOOD AND AGRICULTURE

THE FAO EUROPEAN BULLETIN No. 1

BIMONTHLY PUBLICATION OF THE FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

SUMMARY

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Direction: S. L. LOUWES, Special Adviser to the Director-General of FAO

Foreword

The present Bulletin " Food and Agriculture " was created in accordance with the wish expressed by the representatives of the National European Committees at the Meeting held in Rome at the seat of the Temporary Bureau of the F. A. O., last March.

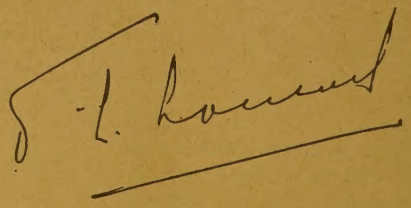
This Bulletin aims to be a link between the Food and Agriculture Organization of the United Nations, its National Committees and European public opinion.

By commenting on the programme and work of FAO ; by showing the progress made — or to be made — in the vast field of agriculture and food, we hope this Bulletin will contribute to the realization of the aims of the Organization.

It will therefore be mainly of an informative character and will strive to establish contacts between different and wide-spread circles interested in the Organization's programme.

This first number is a tentative effort of what we wish to accomplish with this Bulletin in the future. Besides informative articles of a technical character, information concerning the life and evolution of the National Committees, and legislative and bibliographical notes, we hope this Bulletin will give a living picture of agriculture in Europe. There is no doubt that not only experienced readers, but also readers in general will soon realize that on a Continent like Europe few problems can be considered as being of a strict national character, but that most of them have rather international — or at the least regional — aspects. A wider knowledge of the position in each country will surely result in better understanding.

Two other issues of this Bulletin will be published before the end of the year. Its future will depend on the reception it receives. Its only desire is to contribute a little towards this great task.



SIR JOHN BOYD ORR

DIRECTOR GENERAL OF FAO

Introduction

The recovery of Europe is the key to world recovery. Among her many critical problems, food comes first, and the problems of agriculture are therefore of foremost importance.

For that reason, the Food and Agricultural Organization of the United Nations (FAO) is giving such attention at this time to European countries, where international action is essential in solving agricultural problems and enabling these countries to get back on their own feet as quickly as possible.

In each member country the National FAO Committee is the focus of these activities. Through these committees, European nations are formulating common plans and working together in carrying them out.

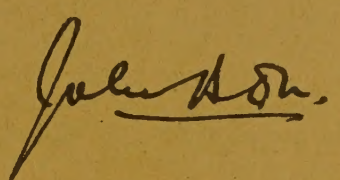
In turn, the national committees are served by the temporary European Office of FAO at Rome. This office was formerly headquarters of the International Institute of Agriculture, which has now been absorbed by FAO.

The aims of FAO reach beyond the immediate problem of recovery. The organization was set up to foster and aid long-range world expansion in the production and distribution of food and agricultural products, to the end that there may be food on a health standard for all people and prosperity for the world primary producers.

An extensive program of publications concerned with the science, economics, and statistics of food, agriculture, forestry, and fisheries is one important part of the work. The International Institute of Agriculture began this many years ago. FAO is now taking it over and will carry it on. We shall maintain the tradition of service, but we are expanding the publication program so that it will be even more useful over a wider range of national and international interests and activities.

It is at the earnest request of representatives of the European National FAO Committees that the publication of a new periodical "Food and Agriculture", of which this is the first issue, is being undertaken by the Rome Office. This journal will be devoted exclusively to European problems and to developments elsewhere that are of special interest to Europe.

I hope it will prove to be a worthwhile service for all who are concerned with the science and economics of production on this continent.



FAO SPEAKS TO EUROPEANS

by **André MAYER**

PRESIDENT OF THE EXECUTIVE COMMITTEE OF F A O

The frightful din of explosions has ceased. The voice of Europeans is once more making itself heard, and once more this voice expresses the greatness of Europe... and her weakness. Dying of cold and hunger, her homes destroyed, her fields devastated, her factories wrecked, her governments collapsing, Europe has again begun to fight... for ideas. What is this Universe ? What place does man hold in it and what is his destiny ? Is there a " sovereign good " and if so what is it ? How can human governments conform to it ? What is the best political system ? What is the best economic system ? A league of Nations must first of all be a League of Minds. How unite them ? May not this be possible only under a universal system ?

In the midst of this great debate, FAO makes its modest bow.

« Ladies and Gentlemen, I beg your pardon. But I cannot forget that for several years past in your countries millions of men and women with hollow cheeks and haggard eyes have had all their thoughts concentrated on these elementary problems : how to get a meal, where to sleep, how to find shelter from the cold, how to escape from imminent death or slavery or torture, how to save their children. And even now you are lining up in queues before the bakers' shops ; your health is none of the best ; your fields no longer yield the crops of former days ; not all the chimneys of the factories that still stand are smoking ; your ports are half deserted and your roads are no longer crowded.

These are certainly prosaic matters. But I am one of those prosaic organizations of the UNO, the " specialized agencies ", those that are not in the spot-light, that do not rouse the great passions. It is their task to remind you of your every-day problems, to define them, to help you to solve them. First and foremost, I am here to say to you Europeans " If these problems seem to you overwhelming, is this the moment to despair ? Why should you lose heart ? ".

You are hungry. But it is you Europeans who have discovered what hunger means. Hunger reminds us that your organism in its effort to keep alive, in its struggle against the cold, in its daily work, sustains losses which must be repaired. It is you who have discovered the nature of these losses and who have learnt to enumerate them. We cover these losses by nutrition. It is you who have discovered the nature of the different foods, in what they consist, which are those which enable you to meet your needs in full. It is you who have taught the world what the daily ration should be for a child to ensure his balanced growth, of a man to enable him to work, of a woman to enable her to be a mother. You were the first to see clearly what the nutrition of a people should be, what these nations of the earth should eat if they are to survive.

And it is you who have given them the means of securing this nourishment. You it was who discovered what our "mother earth" is ; the nature of the soil, what plants and animals take from it and what must be returned to it or added to it to maintain and increase its fertility. You discovered

how animals and plants reproduce themselves, and what paths they follow in doing so. You have learnt how to guide these great natural forces ; how to create new kinds of plants, new breeds of animals, to meet your needs.

For hundreds of millions of years an immense amount of labour was required to satisfy the pangs of hunger ; the effort claimed almost all the time, almost all the strength of man. It is you who have invented those machines that plough and sow and reap, it is you who have invented those which weave our clothes. It is you who have thus lightened the age old labour of man.

You have transformed the ship and started the airship across the oceans. You have brought the nations out of their isolation. You have organized their work and their exchanges on an ever vaster scale, a scale commensurate with the planet itself.

Let us look more deeply into the matter. You well know how you have brought all this about. You it was who three hundred years ago taught all the nations of the world. And you are now able to speak or to write to them materially, and to tell them that there is a sure means by which it would be possible to cease living from hand to mouth, haunted by the fear of the morrow. You have invented a safe and reliable means — the only reliable one, for forecasting the future — the way that you have termed Science.

Science, of course, cannot attain that absolute you are always dreaming of. But it enables you to foresee accurately the probable course of natural events. And this makes it possible to plan great things, to act on the basis of reflection. It gradually makes man the master of nature, and master of his fate.

I, FAO, am the daughter of Science. I derive from her my prosaic character. She it is who has taught me that one can build the future on the basis of facts observed and criticized, on the painstaking study of their relations, on measurements.

But she has taught me more than that.

You know well how vast is the undertaking on which Science is engaged. It is the undertaking of all men of all lands, whatever be their race, their religion, or their country. Her new discoveries are only really made when they are accepted by all mankind as such, and can be made use of everywhere. This common adventure leads us to cooperate in discovery. This new bond between men, this new comradeship that you Europeans have invented and which has been such a great success in the realm of thought, does it teach you no lesson in the realm of action ?

Of course it does, as you have recently shown. It has taught you a new way of waging war. It is you who have invented " total war ". You have shown that war has now become a great cooperative enterprise of a whole people : men, women, and children ; that it is as much a war of scientists, engineers, doctors, farmers and workmen, as a war of soldiers ; that it calls for all the resources, absorbs all the productive potential of a whole country, gives full employment to all heads and hands ; that by so doing war becomes marvellously effective, the finest instrument of destruction that was ever dreamt of.

Do you not think that this cooperation applied to discovery, anticipation, invention, action, might be as useful to you in peace as in war ? For instance, to provide you all with good food ; to prevent the diseases that threaten you, or to cure them ; to help you to rear your children ; to lighten your work, increase your production, improve your means of exchange to raise the agricultural masses, — and they account for half the inhabitants of Europe — from their agelong poverty ; to enable them to enjoy that minimum of security without which nothing is possible ?

To achieve this, no less than for building up science, a minimum of cooperation is necessary ; humble, daily, commonplace cooperation. But just as thousands of laboratory experiments gradually afford a wonderful view of the ways of Nature, so thousands of experiments made in working in

common may slowly lead men to adopt a new behaviour. They would teach them the importance of mutual aid and mutual toleration, and they might gradually learn mutual esteem. Who can say ! Perhaps by acting together to attain a common purpose, by struggling together against the scourges that have always threatened us, and which still threaten us, following henceforward concerted methods and accepting a self-imposed discipline, perhaps by this means we should create that community, the foundations of which we go so far afield to find, when perhaps they are here within our reach.

FAO is at your service to help you in this great task. It may be one of the instruments of your cooperation, one of the means by which you may rise up again — if you wish to do so.

We herewith publish a series of articles dealing with the important aspects of animal husbandry which are intended for zootechnical specialists.

IMRESSION AND IDEAS ON THE BUILDING UP OF LIVESTOCK IN EUROPE

by **John HAMMOND**

Professor at the School of Agriculture, Cambridge University

In approaching the problems connected with the building up of livestock in Europe one has to consider two main points of view. Firstly, the need of the consumers and, secondly, the economic position of the producers. Having decided on the general direction livestock production should take on the basis of these two considerations, one needs to consider also a third aspect, which is necessary before these two needs can be satisfied, that is, the methods adopted for the organisation of supplies from producer to consumer. This latter is a large subject in itself and will not be referred to here, except incidentally, but it should be pointed out that lack of facilities for this is often the limiting factor in effective action being taken in the other two fields.

The need of the consumer of animal products in Europe is for high quality animal proteins, and especially those containing protective vitamins and minerals. Medical opinion is strongly in favour of a larger *per capita* consumption of such foods as milk and eggs, especially among those sections of the community which need them most, that is, growing children and expectant and nursing mothers. In recent years there has been a large amount of experimental work to justify this opinion ; for example, Orr et al. (Proc. World Dairy Cong. London, 1928) have shown how effective milk is in causing increases in both weight and height in school children, while McMeekan (J. agric. Sci., 1940-41) has shown what large differences in body size and form can be produced in pigs by different levels of nutrition during the growth period, and Wallace (J. agric. Sci., 1947-48) has demonstrated how the milk supply of the mother and the vigour of the young at birth are dependent on high plane nutrition during the later stages of pregnancy. The need for meat by all sections of the population is not only to supply high quality pro-

tein, but also to add to the calorie intake of a ration without adding too greatly to its bulk. Without fats it is difficult to do this, and fats form an appreciable proportion of meat animals, particularly of the pig, which also has the advantage of containing considerable quantities of vitamin (Aneurine) in its muscles (Waisman and Elvehjem, *The Vitamin Content of Meat*, Minneapolis, 1942).

The need of the producer of livestock in Europe is for a quick turnover on his capital invested, for in most areas in Europe the farms are small and the owner is short of cash to buy the day-to-day necessities of life and so requires a ready monthly or weekly source of income. This is provided by the production of milk, eggs and poultry. Of the various forms of meat production the pig approaches this most nearly since it can be marketed some 10 months from conception, as compared with beef at about 40 months. Another problem the producer has to face is the supply of feedingstuffs for his animals. These total about half the costs of production, and form the main limiting factor in the volume of output of animal produce. Looked at from this point of view, the efficiency of conversion of feedingstuffs into animal products varies greatly with the different species of animals and types of production, as the following table (from Halnan, Proc. Nutrition Soc., vol. 1, 1944) shows :

Efficiency of Feedingstuffs conversion for different animal products percentage utilisation.

Product	Protein	Energy
Milk (3 lactations)	17	30
Eggs (2 years at 140 per year)	33	22
Poultry Meat (3½ lb. liveweight)	18	14
Pig Meat (200 lb. liveweight)	13	40
Pig Meat (100 lb. liveweight)	15	36
Beef (1250 lb. liveweight)	7	15
Lamb (90 lb. liveweight)	6	10

From this it will be seen that milk, eggs, poultry and pig meat are the most economical forms of animal production.

One other consideration has, however, to be taken into account before a final decision on priorities is made ; while the food of the cow consists mainly of substances which are unsuitable for human consumption, the food of the pig and fowl come very near that of man. For example, they are both consumers of wheat milling offals and small potatoes, much of which, in the present emergency, it is necessary to use for man direct. As the world cereal position eases, however, the development of pigs and poultry should increase rapidly, for the rate of reproduction in both these species is fast. Areas with high concentrations of population (whether they be whole countries, or localities within a country) are large consumers of bread and oils. It would be good long-term policy to import these requirements as grains and oilseeds respectively, so that the offals produced could be used for animal feeding in these areas which need large amounts of animal produce.

It now remains to consider in detail the steps which might be taken to increase the production of those animal products which are most urgently needed.

Milk Production (*Dairy Cows*). Increase in the milk supply can be obtained in two ways, firstly by increasing the number of cows kept and, secondly, by increasing the output per cow. While the first method is necessary in some areas devastated by war conditions, the second method offers the greatest economic possibilities and can be carried out at the same time as increase in numbers is taking place.

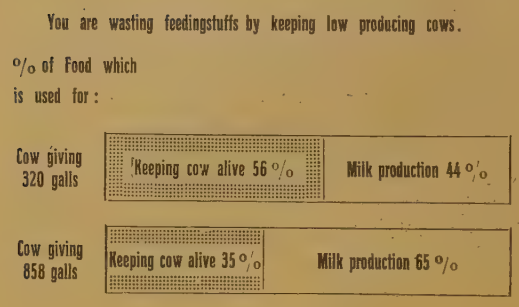
Rapid increase in numbers of dairy cows is largely a matter for the Veterinary Services. The effective birth rate can be increased by the prevention of abortion and the cure of temporary sterility, while the death rate can be decreased by the prevention of such diseases as tuberculosis and those diseases such as mastitis which cause cows to be eliminated from dairy herds. Due to these diseases, and to the present uncertainty in cows breeding true for high milk yields (see below) the average life of the dairy cow in some areas is only about 5½ years (Wright, Scottish J. Agric., 1933), whereas the maximum milk yield is not reached until the cow is 7½ years old. Moreover this short life of the cow adds to the cost of milk production. Owing to the food costs of rearing heifers to milk age and to the lower yields in the first lactation, a gallon of milk from a cow which

leaves the herd at 3½ years costs twice the amount of food as does a gallon of milk from one which leaves the herd at 7½ years (Perry, Amer. Guernsey Breeders J., 15 January, 1946).

The economic importance of increasing the output of milk per cow, especially in time of shortages of feedingstuffs, is seen by the fact that if a given quantity of feedingstuffs is fed to low yielding cows (3200 lb. of milk per year), 56 % of the food goes to keep the animal alive and only 44 % is turned into milk (see Fig. 1), whereas if this same food were fed to high yielding cows (8500 lb. of milk per year) the figures would be 35 % and 65 % respectively (Eckles, *Dairy Cattle and Milk Production*, New York, 1920).

FIG. 1

Breed Better Cows.



There is great need to improve the methods of breeding for high milk production among the small dairy farmers in most countries of Europe. In the past, selection has taken place by culling the bad producing cows breeding only from the best. This is a very slow process and today in most countries is not possible owing to the reduced number of cows available. At the best a cow produces a heifer calf only once in two years, but a bull can, with the aid of artificial insemination, produce 1000 heifer calves in this time. We should, therefore, concentrate our efforts on the proper selection of the bull in order to improve breeding for milk production. As the farms are so small the price that can be paid for good bulls to increase milk yields in the next generation is, in most areas, not sufficient to encourage breeders to set them out to produce good bulls. This can be changed, however, by the introduction of Artificial Insemination Societies, whereby a bull can produce 1000 or more calves a year in place of the 30-50 as at present ; a large number of farmers combined in such a Society can afford to give more for a good bull than can each individually. The spread of this method of breeding and the development of specialized bull breeding farms to supply good bulls from " progeny tested " sires for this purpose should do much to increase milk production. Such action needs to be initiated at once, for it will take almost four years for the effects of such action to be seen in an increased production, but once done, the effects — increased and more economical milk production — are certain and lasting and will benefit both producers and consumers alike.

In the meantime there is much work to be done in educating the small farmer in modern methods of feeding and managing dairy cows ; such, for example, as in feeding according to yield and in supplying sufficient protein in the rations. But perhaps the most important action which can be taken in this field, in order immediately to put up milk production, is to feed the pregnant cow well (with a milk producing ration) during the dry period for some 6 weeks before calving : this causes growth of the mammary gland so that the cow gives much more milk after calving (Wallace, J. agric. Sci., 1947-48). Such education should be started now, so that when the improved dairy cattle become available the full advantage to be gained from them will be obtained, and, in the meantime, quite considerable increases in milk can be obtained from the cows at present available.

Much incentive to greater and more economic production of milk by small farmers can be given by making the disposal of their products easy for them: that is, by arranging for collection of the milk by lorry from the farm for delivery to the collecting depot, from which it is sent in tanks for distribution in the centres of population. In many areas the provision of pasteurising plant is also necessary, not only

for hygienic purposes, but also from an economic point of view to prevent spoilage and prolong the marketable life of the milk and so lower distribution costs. In areas distant from large centres of population the milk produced can be marketed as cheese or butter and the whey or skim milk be used on the farm for pig and poultry rearing. Such a cycle of cow – skim milk – pig – manure – forage crops – cow – is a system which raises the fertility level of the soil and so steadily increases the output per acre – a major requirement for such a thickly populated area as Europe.

Meat and Fats (*Pigs*). Pig production depends on the availability of the by-products of human consumption, such as, for example, skim milk, whey, small potatoes and cereal offals. Some of these, such as skim milk, are mainly protein in composition and others, such as potatoes, mainly carbohydrates. Good economic utilization depends on arranging the type of production (flesh or fat) to suit the main feedingstuff (protein or carbohydrate) available. In the early stages of growth of the pig the skeleton and muscles make most of their growth while later in life the weight added consists mainly of fat (McMeekan, J. agric. Sci., 1940-41). In areas where skim milk is available, therefore, it is an economic advantage to produce a flesh pig at a comparatively young age, whereas where potatoes predominate it is more economical to produce a fat pig at an older age and heavier weights (see Table I). From the consumer's point of view, where fats are in greater demand than flesh the most economical method of management is to grow the pigs slowly at first and later to feed them heavily on a carbohydrate diet, whereas where flesh is in greatest demand the pigs should be grown as fast as possible from birth (see McMeekan, J. agric. Sci., 1940-41). Because of the present shortage of feedingstuffs for pigs, it is better to encourage the keeping of one or two sows and their offspring on all suitable farms rather than set up large breeding and feeding establishments, except under special conditions (such as in the vicinity of a cheese factory), for maintenance requirements for one or two sows can be obtained from waste products whereas large breeding and feeding establishments require special supplies of food. If, now that pig stocks are low, good pedigree herds could be encouraged to rear all gilts for distribution to small farmers, the increase in pig numbers, when and as feedingstuffs become available, will then be made from good stock.

Eggs (*Poultry*). Very much the same principles of reconstruction apply to poultry as to pigs and for the same reasons – present shortages of feedingstuffs. A few fowls kept on almost every farm obtain a large part of their requirements by scavenging, whereas specialized poultry plants require special supplies of feedingstuffs. There is need, however, for large, carefully controlled, breeding establishments (where trouble is taken to control disease and do progeny test breeding) to be given special supplies of feedingstuffs on condition that they shall supply good breeding stock for the small farmer — so that when feedingstuffs become generally available the best use is made of them.

IN CONCLUSION THE MAIN REQUIREMENTS WOULD APPEAR TO BE :

Firstly, the establishment of a number of specialized farms, breeding by modern scientific methods bulls, boars and cocks for high production transmitting qualities and the distribution of these to small farmers. The establishment of artificial insemination centres is the most efficient method of doing this for cattle.

Secondly, the provision of veterinary services with men specially trained in modern methods of the prevention of sterility and abortion and in the control of the diseases which form the main causes of wastage in livestock.

Thirdly, the education of the small farmer in scientific methods of feeding and management. There are many ways in which this can be done by an advisory service established for this purpose. In addition to concise, simple, practical printed leaflets and notices, at appropriate times, in papers which he normally reads, visual demonstrations can be arranged on farms.

Fourthly, means of collection and distribution of produce need to be organized so that the

farmer can devote himself to methods of production and not to spend much of his time in trying to find a market for his produce.

Since in most European countries the farms are small, it is difficult for the farmer himself to make use of modern scientific methods of production unless there is some organization (public services, farmers' societies, etc.) to provide these for him and so enable him to increase his output and profits and to supply what the consuming public requires, that is, good food at low cost.

SWITZERLAND'S SHARE IN THE RECONSTRUCTION OF EUROPEAN LIVESTOCK

by **Albert KIENER**
of the Federal Department of Political Economy

I. PRESENT STATE OF ANIMAL PRODUCTION

Recent information on the present size of the flocks and herds in the European countries, devastated by war or enemy occupation, is not available. Here and there the press publishes items of information which would deserve to be more fully stated. In consideration of the serious food situation in Europe the Temporary European Bureau of the Food and Agriculture Organization of the United Nations (FAO) has placed on the agenda of the first meeting of experts on animal husbandry an enquiry into the production and requirements of breeding and other stock animals of the different kinds in European countries.

Some general information which will undoubtedly be confirmed by the results of the enquiry now being made, leads to the following conclusions :

a. *East and Central European Countries.*

These countries were very great sufferers from the war and the occupation. Moreover, a series of droughts caused a further reduction of the flocks and herds, while structural reforms have brought about great changes. These have not failed to react on the livestock, which has fallen off both in quantity and quality. This moreover is one of the reasons why UNRRA sent stock to those countries.

b. *Western European countries.*

As there was a great scarcity of agricultural labour during the occupation (prisoners, deportees), the farmers, and more especially their wives who often remained alone, particularly devoted themselves to stock-breeding as it requires less labour than dairying. Therefore, apart from the livestock of the devastated regions, the flocks and herds have not been reduced in number, or at least not to a marked extent. Nevertheless, owing to the suspension of forage imports, the number of head and their productivity have been declining.

Generally speaking there is a scarcity of livestock in the Eastern and Central European countries ; in the Western countries, which are better supplied, efforts must be concentrated on improving the quality of the herds, some of which have deteriorated in these last few years.

Prior to the 1939-45 war, Switzerland possessed more herds and flocks than she could feed on her own resources. She imported large quantities of forage, most of which was fed to pigs and poultry, and to a lesser extent to cattle (oil cake) and to horses (oats). In 1940 these imports suddenly stopped. At the

same time, the application of the plan for enlarging the crop areas led to a further reduction of livestock, which was further decreased by successive periods of drought. This reduction, which did not affect all species, was marked in the case of pigs and poultry which were fed above all on concentrated feeds; it was felt less in the case of cattle. While the numbers of goats and sheep remained fairly stable, — it even increased somewhat — horse breeding had a great renewal of activity owing to the heavier demand for the army, agriculture and industry.

The following figures give details on the subject.

Cattle

Year	Cows	Total number of cattle
1936	882,264	1,568,738
1943	828,255	1,516,609
1946	815,482	1,472,226
1947	821,159	1,449,826

Pigs

Year	Sows	Total number of pigs
1936	79,061	877,511
1943	48,675	629,324
1946	58,651	654,253
1947	61,276	709,235

Horses.

Year	Stallions and mares for breeding	Total
1936	7,930	139,789
1943	16,039	145,879
1946	16,531	151,941
1947	13,056	147,047

Poultry.

Year	Broody hens	Total
1936	4,214,762	5,544,148
1943	2,717,245	3,724,418
1946	3,262,228	5,043,421
1947	3,676,064	5,019,337

When compared to the figures for most European countries, Swiss livestock has been reduced but little, and, as regards quality, a marked improvement has been registered in these last few years on which we shall remark further on. Here we will only note that, notwithstanding the reduction in the number of the native flocks and herds, the number entered on the herd books for all species has increased considerably.

	Horses entered on the Stud-Book			
	Males		Females	
	1939	1946	1939	1946
Breeds *)	211	307	6,029	10,189

*) As a census of horses returned by breeds has never been made in Switzerland it is not possible to give definite information on this point.

Cattle	Cattle entered on the herd-book			
	Males		Females	
	1940	1946	1940	1946
Simmental cattle	2,828	3,575	95,112	118,655
Brown Swiss cattle	2,108	3,040	109,471	133,690
Black and white spotted cattle	176	266	6,176	5,833
Eringer cattle	130	156	8,302	5,800

Pigs	Number entered on the Pig-book	
	Males 1946	Females 1946
Grand Yorkshire	849	4,451
Improved native pig	365	4,617

Goats	Number entered on the Goat-book	
	Males 1946	Females 1946
Gessenay	389	9,405
Appenzell	28	714
Toggenborg	—	2,842
Chamoix Alpine	181	4,562
Grisons	104	2,017
Black necked Valaisannea	14	88
Verzasca	234	2,396

Sheep	Number entered in the flock-book	
	Males 1946	Females 1946
White Alpine sheep	2,095	16,844
Brown head sheep for mutton	610	2,648
Black and brown mountain sheep	123	1,191
Black-nosed sheep	162	795

Poultry	Poultry farms 1946	Controlled broods 1946
1. Leghorns	8,402	9,723
2. Rhode Island	566	578
3. White Wyandottes	364	172
4. Plymouth Rocks	183	38
5. Swiss hens	221	13
6. Yellow Orpingtons	138	44
7. Rhineland	339	294
8. Sussex		253
9. Brown Italian		551
10. Other races		

Switzerland is therefore in a position to contribute to the revival of European livestock from the standpoint of quantity, by supplying a quota proportionate to present needs, and from the standpoint of quality thanks to the careful selection of her flocks and herds.

II. THE DIFFUSION OF SWISS BREEDS OF LIVESTOCK IN THE EUROPEAN COUNTRIES.

To reconstitute European livestock the first thing to do is to supply to the devastated regions animals belonging, as far as possible, to the breeds used before the war, whose ability to become acclimatized has been tested. It would seem to be a mistake to send animals accustomed to quite different climatic conditions, where they require foods that their new owners could not supply. Switzerland is essentially an exporter of livestock. Her breeds of cattle enjoy a world-wide reputation (the red speckled or Simmental breed, the brown Swiss breed of Schwytz). Our country has also played a notable part on the international plane in goat breeding. She is also an exporter of horses, pigs, poultry, and less frequently of sheep.

The export of Swiss livestock is a tradition, dating back to very ancient times. As early as the Roman period herds of cattle left the Alps for the South and the West.

The oldest documents relating to the Simmental breed date back to the XVth century. They show that this breed of cattle was even then exported to Italy, France, Austria and the German States. Annotations which become more and more numerous from the XVIIth century onwards, make these documents of ever growing importance for animal husbandry. During the second half of the XIXth century the export of Simmental cattle acquired an importance which it continued to have until the time of the post-war agricultural depression.

Cattle of this breed was exported more especially to the South and Central German States, which before the 1939 war had more than 5 million head, to Austria, where they accounted for 2/5 of the herds, to Hungary where they accounted for 4/5 of the livestock, to Czechoslovakia, where their breeding is systematically encouraged, to Yugoslavia and Roumania — more especially in the Banat and Transylvania — where several hundred societies for breeding Simmental cattle were formed. Before the revolution, Russia was one of our best customers. The Simmental breed is now found in the Ukraine, the Caucasus, South Galicia, and in other parts of Western USSR. The breed is found in Italy, a country that Switzerland has long supplied with cattle, and in France in the departments of the West : Jura, Ain, Doubs, Saône-et-Loire, Côte-d'Or, Haute-Marne and Alsace-Lorraine, where there are also large herds of the so-called "Speckled East" breed similar to the Simmental. Simmental cattle are also appreciated in Bulgaria, Spain, and outside Europe, in North and Central America.

The *Brown Swiss Breed* known by the name of Schwytz breed, whose origin dates back to the period of the lake dwellers, has been a thoroughbred breed for some thousand years. This breed of cattle was already valued in the middle-ages for export and exchange. The breed has

spread far and wide in Europe and in overseas countries, in Northern, Sub-Tropical, and even Tropical countries. Historical documents show that this breed has been exported for more than half a century to Italy and the neighbouring regions. Italy is, however, the chief market. France, Germany, Austria, Roumania, Spain, and North Africa are now among Switzerland's regular customers. Since 1920 the brown breed has gained a footing in overseas countries, in Canada and Central America, in South Africa, and above all in South America.

Cattle of the two less well known Swiss breeds (the black and white spotted breed and the Eringer) are sold in France, Italy, North Africa, and sometimes in some countries of Central Europe.

We would mention, in passing, the correspondence existing between the diffusion of the breeds of cattle and that of the Swiss breeds of goats which are at the basis of the rehabilitation of the goat herds of many European countries.

Horses have been bought from time to time by Hungary, Persia, and since the war by France and Italy, and there was a time when Switzerland exported horses on a large scale.

Pigs are sold to some neighbouing countries.

Lastly, Switzerland has recently exported selected breeds of *poultry* to Central Europe.

The following tables give particulars on this subject :

Exports of cattle (bulls, cows, heifers, young animals excluding calves) from 1920 to 1929.

Germany	3,906
Austria	1,573
France	3,995
Italy	11,649
Czechoslovakia	1,786
Brazil	765
Belgium	113
Spain	5,233
Hungary	1,082
Poland	57
Yugoslavia	144
Roumania	336
Other countries	504
TOTAL	61,143

Exports of cattle (bulls, cows, young animals, excluding calves) from 1930 to 1939

Germany	4,375
Austria	374
France	8,213
Italy	43,279
Spain	1,195
Czechoslovakia	3,875
Hungary	1,158
Yugoslavia	1,072
Roumania	469
Algeria	2,098
Morocco	224
Brazil	227
Poland	110
Greece	33
Palestine	414
Tunisia	70
Other countries	470
TOTAL	67,656

Exports of Cattle in 1945.

Country	Brown breed	Simmental	Fribourg breed	Eringer breed	Total
Germany	21	2	—	—	23
France	778	860	26	83	1,747
Italy	2,241	—	—	—	2,241
Spain	42	—	—	—	42
Czechoslovakia	498	4,294	—	—	4,792
Morocco	89	—	—	—	89
TOTAL	3,669	5,156	26	83	8,934

Exports of cattle in 1946

Country	Brown breed	Simmental	Fribourg breed	Eringer breed	Total
Italy	18,647	153	29	16	18,845
France	263	505	—	24	792
Czechoslovakia	—	165	—	—	165
Hungary	—	322	—	—	322
Austria	4	3	—	—	7
Germany	35	4	—	—	39
Argentina	5	—	—	—	5
Panama	2	—	—	—	2
Peru	10	—	—	—	10
Venezuela	6	—	—	—	6
TOTAL	18,972	1,152	29	40	20,193

Sex	Head	Price (Swiss francs)
Bulls	1,723	2,094
Cows	14,082	2,130
Heifers	3,070	1,820
Young bulls	1,318	820

III. WHAT THE SWISS MARKET CAN OFFER NOW.

A. From the standpoint of quality.

During recent years Switzerland has made great efforts to improve the quality of her livestock. The matter has been studied in all its many aspects, to which we will now rapidly refer.

Cattle.

1. Stressing strength and frugality.

High and sustained production cannot be obtained unless the animals have very strong constitutions. In this connection praiseworthy efforts have been made to take full advantage of Alpine and other pastures. Thus, for instance, breeding stock is only admitted to prize shows if it can be shown that they have benefitted by a long sojourn in the open air.

The shortage of concentrated feeds during the war put to a severe test the capacity of assimilating coarse feeds. This kind of selection breeds animals characterized by that frugality which greatly facilitates acclimatization in areas where they have to be satisfied with rather poor forage. By never losing sight of the triple object the breeder has in view, that of producing a stocky animal, short legged and muscular, with all the marks of productivity, animals are obtained which can adapt themselves to the most diverse conditions.

2. The control of infectious diseases of cattle.

Great progress has been made in this direction. Thanks to strict veterinary precautions combined with the vaccination of animals on threatened frontiers, Switzerland has succeeded in ridding her territory of foot and mouth disease for many years past. Bovine tuberculosis can be successfully controlled. There are now not only thousands of farms free from it, but also entire zones where tuberculosis is unknown. All animals used for breeding must give a negative reaction to the tuberculine test before they can be entered in the herd-book. Similar control is exercised to prevent contagious abortion. This has been possible thanks to the fact that these diseases were not widespread in the stock-breeding districts, owing to wholesome conditions, natural forage, and the reduction of the number of cattle made necessary by the war. This reduction was made possible by first eliminating all germ carriers.

3. Steady growth in the number of registered animals in recent years.

The reduction of the number of cattle has not hindered the progress of animal husbandry. Indeed, Switzerland is now in a position to supply selected pedigree breeding stock.

Yield tests have increased to an even greater extent, and the Swiss stock-breeder can now supply breeding animals with certificates of productivity. Nor is it difficult to find cows and breeding heifers with vouchers attesting their origin and the yield of their ancestors, if not their own yield. The following figures afford a picture of the situation.

Tests of milk yield.

Year	No. of herd-book subjects	No. of tests	%	Milk yield per lactation period	per day	Total fat content	% fat content
				Brown breed.			
1936	89,406	5,623	6.29	4,128	13.76	156	3.9
1943	114,934	11,335	9.86	3,755	12.52	148.8	3.8
1944	118,705	10,485	8.83	3,774	12.58	142.4	3.8
1945		11,428		3,758		142.4	3.8
				Speckled red breed			
1936	73,126	2,400	4.18	4,249	14.16	170	4.03
1943	91,954	6,002	8.21	4,076	13.59	165	4.05
1944	93,199	6,604	8.80	4,063	13.54	163	4.00
1945		7,114		4,048		162	4.00

It should be noted that recent results have been secured without any rations of concentrated feeds, the only rations being those of coarse Alpine forage which, while they promote the health and vigour of the animals, are prejudicial to milk yield.

The same remarks apply to horses, pigs, goats and sheep; the number of registered animals has increased, the yield tests have been extended, the system of exploitation has been improved.

B. From the standpoint of quantity.

1. Cattle.

Switzerland can export a quota of 20,000 head of cattle :

	Breeding stock	*Other*
bulls	1,000 head	
cows and heifers.	2,500 »	16,500

The 20,000 head of cattle are distributed as follows among the several breeds :

Simmental breed	9,500 to 10,000 head	
Brown Swiss breed	9,500 to 10,000 »	and more
Spotted black and white (Fribourg) breed	300 to 500 »	» »
Eringer breed	150 to 300 »	»

The available supplies of light draft horses (more especially colts and fillies) belonging to the Jura or the Franches Montagnes breeds is :

	Breeding	*Work*	
stallions	30 to 40 head	Geldings	1,000 to
mares	200 to 400 »		1,550 head
		females	

3. Pigs.

Although the number of pigs has fallen off, excellent progress has been made with the selection of animals that assimilate well, are productive, and healthy. Switzerland can now supply boars breeding sows, and, if required, young pigs for fattening of the Grand Yorkshire breed and the improved native breed. Available supplies are estimated at

Boars	50 to 100
Sows	300 to 500

distributed in equal numbers between the two breeds.

4. Goats.

Several hundred goats belonging to the Saanen or Gessenay, the Toggenbourg, Alpine Chamoix Goats (Oberhasli-Brienz), Appenzell, and other breeds can be supplied to regions desiring them.

5. Sheep.

The Swiss breeds of sheep adapted to the meagre conditions of the Alpine regions, are :

the white Alpine sheep which are the most numerous

the brown-head sheep, bred for mutton, and *the native black-brown sheep.*

As soon as they come down from the Alpine grazing lands in the autumn, some 100 rams and 350 to 500 registered ewes and about 2,000 sheep for general purposes could be exported. Fertility tests and tests showing the quality of the wool allow of supplying selected animals.

6. Poultry.

Switzerland, thanks to her poultry farms and controlled broods, is in a position to supply the market with a large number of cocks and hens for breeding purposes belonging more especially to the following breeds : Leghorn, Rhode Island, White Wyandottes, Plymouth Rocks, etc. Some hundred of these are pedigree birds available for export. : 100 to 200 cocks, 300 to 500 hens.

ARTIFICIAL INSEMINATION OF ANIMALS

by Telesforo Bonadonna

Director of the Italian Experimental Institute "Lazzaro Spallanzani,,

During the last few years the application of artificial insemination to higher animals – mammals and birds – has extended more or less to all countries of the world.

In some countries the war has limited or hindered progress in studies and experimental research, while in others it was possible to obtain results of appreciable scientific, technical and economic importance.

After the masterly work of Abbot Lazzaro Spallanzani in Pavia, Italy, and Pietro Rossi (Italy) on the dog, from the end of the 19th century, Russia was for many years the only country where the method was adopted in practice, and subsequently became important.

About 1930, statistics were published for millions of female animals, mainly ewes, artificially inseminated in the U. S. S. R. Laboratory studies and the practical experience gained has lead to the development of a new methodology, already adequate for practical purposes.

There have always been and still are in every country people against artificial insemination. In most cases they do not have an up-to-date knowledge of the technique applied, and are unable to weigh the positive aims to be reached and the true biological, technical and economic possibilities of the method, and, as may easily be understood, consider only specific local or individual interests.

The greatest progress was made within the last decade, scientists and technicians contributing by means of their knowledge and the experience they had acquired.

The important results obtained in Russia have proved the real, though at the time unexpected, efficacy of the method. The results obtained elsewhere – in Europe, America, Africa and Australia – have confirmed that artificial insemination can be practised even where the environmental, agricultural, zootechnical and social conditions differ from those prevailing in the Soviet Republics.

Through the excellent work of J. Hammond and his followers (Walton, Day, Edwards, Anderson, etc.), England contributed the first experimental and technical bases. In Germany, interesting studies were carried out on the practical application of methods. In Italy, besides the various contributions of a technical nature, the first legal regulation governing the application of the method was set up.

The contributions of Denmark and the United States, especially during the last five years, are particularly significant and interesting for the sound experimental basis of the methods adopted and for the rational organization attained.

Sörensen in Denmark, Salisbury, Phillips, Davis, McKenzie, Andrews and many others in the United States, are the workers who have made the greatest efforts in the field of artificial insemination.

The traditional zootechnical progress of these two nations and the undoubted economic spirit of their stockbreeders, to whom the profit from animal husbandry is just as interesting as to the breeders of other countries, are certainly convincing and indicatory factors.

During the last fifteen years, technicians and stockbreeders became convinced that artificial insemination could succeed as a very im-

portant complementary means in : the prophylaxis of the diseases of the genital organs of domestic animals (particularly those transmitted through coition, e. g., trychonomiasis of cattle, the malignant coital disease of horses, etc.) and therefore, in the control of sterility; in the maximum utilization (as regards time and especially distance) of tested sires, always few in number and expensive, and which few stockbreeders are in a position to employ.

The two problems are important for both the individual stockbreeder and for the yield potentiality of entire regions and nations. Consequently, it is easy to understand why such interest was taken in artificial insemination during and after the war by technicians, stock-breeders and the governments themselves. Particularly justified is the interest taken by international bodies, such as U. N. R. R. A and FAO, which bear the heaviest responsibility in regard to reconstruction work and to increasing world, and in particular, European resources.

In Italy, for instance, losses due to genital diseases of cattle only (sterility, abortions, reduced milk yield, etc) were calculated before the war at over 1000 million lire, amounting to-day to over ten times that sum.

It had been found that with a rational application of artificial insemination, this figure may be reduced to 60-70 percent, with the advantage of securing a greater advance as regards regularity in sexual cycles, the more rational use of animals from the economic point of view as a result of the possibility of their longer use for breeding, etc.

By means of the natural mating a bull will be able to inseminate at the most 80-100 cows per year ; a stallion 50-80 mares ; a ram 40-50 ewes, a boar 15-20 sows.

As with artificial insemination the material of one ejaculation is used for various females, it is possible to inseminate with one bull 1500-2000 cows per year (and occasionally 4000-6000 cows per year) ; with a stallion 300-500 mares ; with a ram 1500-2000 ewes (it might be possible to inseminate as many as 15,000 in one year) ; with a boar 200-300 cows. The present possibilities of artificial insemination are based firstly on the fact that it has been possible to obtain systematically the semen from the sires in the same quantity as the physiological ejaculation, without deteriorating and or altering its vitality and fecundating power and without damaging the males themselves.

To obtain the seminal material is to-day still the most delicate phase of the whole proceeding and requires, therefore, the closest attention. This problem is now solved by the following various methods :

(*a*) the so-called paraphysiological methods (artificial vagina) which may also be called active methods, as the male accomplishes an apparently normal sexual intercourse ;

(*b*) the so-called mechanical or passive methods, with which the ejaculation is done without the coition and therefore without any participation of the sire, but however by massaging and squeezing the male organs of deposition of the seminal fluid (seminal ampols of the bull, seminal bulbs of the bird), or by electrical stimulation (electroejaculation of rams and goats) ;

(*c*) compulsive methods, namely by means of a fistula in the urethra or by subtraction from the epididime following castration or killing of the animal as in the case of wild animals.

The artificial vagina is the technological device which has come into use everywhere. Its first primitive form was created by Giuseppe Amantea (1914).

Dilution and conservation of the semen are the two fundamental factors for the technical and economical convenience of the method. The dilution of the semen has triplicate aims : to create biochemical and physical conditions (energetical, protective, *p*H, etc) allowing the keeping of the spermatozoa alive when out of the organism ; to raise consequently the duration of conservation of semen ; to raise the number of females which may be inseminated with the product of one ejaculation. In the year 1938 Paul Phillips of Madison (Wisconsin) announced the advantages of a certain buffer composed of hen's egg yolk and of a solution of phosphate salts, with *p*H maintained at about 7.

Glenn Salisbury from Cornell University obtained important results with a buffer composed of equal parts of hen's egg yolk and of

a solution of sodium citrate at 36%; pH also at about 7. This second method of dilution is to-day the most successful and the more diffused one in the United States and in other countries as well. It gave good results in Italy, also for dilution of horse and ram semen.

The dilution of the semen by the Salisbury method may also reach considerably high levels; from 1:20 volumes to 1:50 until 1:100, namely one 5 cc. ejaculation of bull semen may reach the volume of 100-500 cc., with which 200 to nearly 1000 cows could theoretically be inseminated (that is to say, without considering the various losses concerned), inoculating to each one from 0.5 cc. to 1 cc. of fertile material.

The conservation of bull semen outside the body may be prolonged also over various days and it has been possible to obtain positive results after 5 to 7 or more days. In practice the most favourable conservation period is thought to be 24-96 hours. In a successful conservation of the seminal material there are to be observed various factors and among them the most important are: the perfect method of collection, most scrupulous attention to avoid any contact of the semen with the common or rare bacterial flora; most careful preparation of the diluting material; prevention of the semen from any thermical shock; the vital power of the semen. The valuing *in vitro* of the fertilizing capacity of the spermatozoa is still an unsolved problem and it appears to be of great importance for artificial insemination purposes. The various technicians have attempted different methods, some of which are very complicated for ordinary practice. The valuing of the reducing capacity (with methylene blue) of Sörensen and the microscopical control are the methods most used. In Italy interesting innovations have been made on the method of colouring spermatozoa. Other interesting studies are those of Blom in Denmark, of Crook in England (on the Emmens method), etc.

Ram and bull semen may be conserved in the same manner. Conservation of stallion and boar semen still presents serious difficulties. Generally speaking one may say that the method of artificial insemination of cattle is the most perfectly developed one, also from the technological point of view. Artificial insemination of sheep is particularly widespread in Russia and in East Europe. Artificial insemination of horses is used within certain limits also because its successes are less relevant. In Italy the latter has been used within durine affected areas where there was obtained 80% of fertility, thanks to the particular skill of the technicians.

In Italy, and in other countries as well, and particularly in the beginning, the method of artificial insemination was put into practice and applied nearly always owing to the enterprise of an individual person or thanks to the interest shown by public enterprise. There have often been serious difficulties from the economic point of view with regard to the installation expenses, but especially owing to the current expenses (maintenance of the reproductive animals, wages of the specialized technicians).

The successes obtained with this method in fighting genital diseases and sterility of cows, especially in the areas predominating with breeding on a small scale, have secured real economic prosperity to the artificial insemination centres set up in those areas: Piedmont, Venetia, Emilia, Tuscany.

The future of artificial insemination, especially when considered as a complementary means for the *qualitative* improvements of breeding, undoubtedly depends on the agricultural economy of our countries (and therefore independent of what may be done in Russia or countries where there are particular environmental conditions), on an appropriate private organisation among the breeders. This would secure the positive interest of the latter as they would get a clear idea of the purposes and advantages pursued; such an organisation would moreover help to provide the necessary means for the instalment and for the purchase and maintenance of high value sires. This would also provide the possibility of obtaining complete utilisation of the latter, which may be considered as a necessary technical and economic aspect of the enterprise.

The examples that come to us from the Scandinavian countries, from England, but

above all from the United States are clear and demonstrative. The first co-operative artificial breeding associations were set up in Denmark in 1935 with regional centres; each bull of theirs artificially inseminated 1200-1500 cows.

From the most recent information we know that artificial insemination has developed in Denmark much more still during the last few months. According to the latest records, there are registered at the Co-operative Associations, created for the purpose, 399,258 cows for artificial insemination with 582 proved sires. An appreciable number of cows are moreover artificially inseminated in private institutions and are, therefore, not to be recorded. It is thought as a result that a tenth of the cows existing in Denmark (approx. 3,500,000). are artificially inseminated. These figures are particularly interesting, as Denmark is considered to be among the countries in the world which are zootechnically best developed from all points of view.

In the United States the *Co-operative Artificial Breeding Association No.* 1 at Clinton in New Jersey, was the first to be set up on the Danish type of 1938 due to the work of Professor Perry. The example was soon followed by other States with an ever more perfect organisation which was favoured by the financial aids granted by the Institutes of Agricultural Credit.

But already in 1940 a new trend developed in the maintenance of the sires. Namely, it was found that – especially for the particular needs for dairy products in the United States – it was much more convenient from the technical point of view (quality of bulls) and economically (advance expenses and costs of maintenance) to gather all the sires in one centre from which the semen was regularly sent to the outlying co-operative centres. The breeders contribute mutually to the expenses of the various local centres, which comprise the wages for the technicians who carry out the artificial inseminations, the cost of the necessary materials and equipment; (they have to pay also for the semen used). The bull stud is administered by the *Federation of Local Co-operatives*. This system has by now been adopted everywhere in New Jersey, in New York, in Wisconsin, in Indiana, in Michigan, in Pennsylvania, in Nebraska, in Iowa, in Oregon, etc., where there are centres comprising 20 to 30 and up to 70 bulls of three to four different races.

In the said co-operative of Clinton there are now 17 bulls. At the *Dairy Research Station of Sussex* (New Jersey) there are about 30 bulls from 8 to 14 years. At the *New York Artificial Insemination Breeders' Cooperative* at Ithaca (Cornell) there are 75 bulls of four different races which artificially inseminate 125,000 cows. It is expected to raise the number of bulls to 200 which will artifically inseminate 250,000 cows. There are depending on this centre 97 local co-operatives which are distributed within 55 counties of the State of New York and the furthest are 300-400 miles away. The main bull stud of the State of Indiana is the *Artificial Insemination Breeding Carmel*, near Indianapolis, which owns at present 30 bulls but their number will soon be raised to between 50 and 70.

The biggest bull stud of Wisconsin is that owned by the *American Scientific Breeding Institute*, comprising approximately 20 sires which serve about 6000 cows per month. The other bull studs of Wisconsin comprise from 20-40 bulls each, and there a total of 143,806 cows were artificially inseminated in 1946, whilst it is thought that 225,000 cows will be artificially inseminated in 1947.

In Minnesota the bull stud of the *Minnesota Valley Breeder's Association* owns 25 bulls which in 1947 will artificially inseminate 30,000 cows. *The South Eastern Minnesota Breeder's Federation* has 18-20 bulls which in 1947 will serve about 20,000 to 25,000 cows. In Nebraska there are 29 Artificial Breeding Associations with four bull studs among which Lincoln owns 36 bulls which will in 1947 artificially inseminate about 15,000 cows.

At the *Oregon Breeders' Association*, near Corvallis, there are 15 bulls which will serve approximately 7000 cows.

At the famous Carnation Milk Farm in Seattle (Wash.) the method of artificial insemination is now used exclusively. On 1st January 1945, there existed in the United States 185 artifi-

cial breeding associations in 23 different States comprising 42.020 members with 342,012 cows. At the 1st of January there were 336 associations with 73,293 members owning 579,477 cows In 1946 there were artificially inseminated about one million cows; in 1947 it is presumed that there will be one and a half million.

All the aforementioned facts are sufficiently convincing ; the American breeders would not intensify the application of a method on such a large scale without having obtained good financial profit.

In North and South America as in Denmark, England and everywhere the chief aim of the application of artificial insemination is to improve the productivity of breedings. Consequently, it is indispensable that the sires used are actually good subjects. Artificial insemination may, on the contrary, become the cause of serious damage to an entire region. This problem has also been considered by technicians and breeders and must be constantly observed in the general and national interest. In the United States at the bull studs there are only reproducers of clear origin and they are nearly all tested.

FAO is dealing with the problem of artificial insemination in the world. The question has, in fact, reached such an importance from the methodological and zootechnical point of view that it must be taken into consideration in the national and international sphere for the advantages it may bring, but also to avoid damage caused by empirism, by free speculation and by careless action.

In addition, artificial insemination represents a complementary means of experimental research and of biological observation of the greatest scientific interest ; and this aspect also, which leads to unexpected horizons for progress in the studies of applied biology and genetics, must be duly taken into account at once.

FAO, having followed some initiatives which had been previously adopted by U. N. R. R. A., is now carrying out an appreciable programme of activities. In April 1947 it called a meeting of experts to examine and discuss certain practical aspects of artificial insemination, particularly from the international point of view. There will be held a training course in August in Milan for specialists from the European Nations most concerned, at which some of the most well-known English and American scientists will give lessons. In the same city there will be held in June 1948 the First International Congress of Physiology and Pathology of Animal Reproduction and of Artificial Insemination.

It would be very useful thing if an international organization with the activity and authority of FAO would devote itself to the matter.

The technicians and breeders from all over the world are always expecting more apparent successes. Others are still very amazed that the collection and elaboration of the statistics is not yet sufficiently complete and reliable. Collaboration of the workers of all countries may bring new conclusions and decisions in the interest of biological and genetical studies of the zootechnical economy of all nations and of the rehabilitation of the insufficient availability of animal products in the world. There arises, on the other hand – and the two recent attempts of transport of bovine semen from the United States to Italy prove this – the possibilities in the near or distant future of international trade in semen, with all the important consequences which may result from it from the zootechnical and sanitary point of view.

Considering all these factors we have already shown on another occasion our interest for the setting up of a settlement for an organization (for information, control and training) within each country with the knowledge of a central technical institution officially responsible, on an international level, which would establish a centre of coordination, under the supervision of FAO and a Committee of experts.

There are still many breeders who fear that with the application of artificial insemination the sire and dam may be damaged or that there may be a progressive degeneration of the race in the animals born from artificially inseminated cows.

The statistics of increasing importance which have been collected for various decades in all

countries of the world show an ever-increasing tendency to exclude these dangers when the technique is well applied and when there are used (as had already been said) tested males and females. From the biological point of view our present knowledge does not allow us to make reliable statements on this subject.

On the other hand, setting the problem of the application of artificial insemination does not wholly exclude natural mating. Artificial intervention represents a zootechnical method to be used whenever it is technically and economically convenient; in making the highest and most rational use of tested sires, prophylaxis of genital diseases and combating sterility (pathological or due to the number of males being insufficient).

The contrasting interests of certain countries where the trade in reproducers is particularly active are easily understood but only up to a certain extent.

The possibility that valuable animals be used by a greater number of breeders and even by those less rich, who at present cannot avail themselves of animals coming from those countries, might maintain the numerical quantity of unaltered exchanges. On the other hand, the small number of sales of little value will be compensated by the higher prices of pedigree sires, superior from a zootechnical point of view with the advantage of starting on more moral bases the national and export trade of breeding animals and thus aiding general productivity of livestock in all countries.

European market or World Market?

by Arthur WAUTERS
Member of the Executive Committee of FAO

Less power is now spent on carrying a sack of grain from New Orleans to Antwerp than was spent in the 18th century on carrying it from Versailles to Paris. A century ago in the United States it took 150 hours of work to till one hectare of wheat land. To-day it only takes 12 or 7 or even 5 in those areas where agriculture has been most highly mechanized. These facts, which could be multiplied show that we are witnessing a ceaselessly increasing rate of speed, a *technical* expansion of the market. This technical expansion is not always followed by a parallel *economic* expansion. It is not enough for the wizards of science to lessen the gap between the producing and the consuming centres. It is also necessary that the products, shipped rapidly to ever growing distances, should find customers provided with adequate purchasing power. Under the existing system, exchanges only take place between producers desirous of profit and solvent customers. Our present mode of production and exchange only meets *solvent*, not *objective* needs.

The great unemployment crises that characterized the 1930s, showed that sudden and prolonged collapses may interrupt the circuit. Foodstuffs were destroyed at a time when millions of men could not satisfy their hunger. It has been said that food requirements are irreducible. This saying has not been substantiated. Whole populations, and in all countries whole classes of the population, have known food shortages.

However this may be, technology, by increasingly ingenious methods, has multiplied the means of storing and preserving foods hitherto considered perishable. The multiplication and improvement of the means of transport has enabled distant populations to consume foods which until now had never formed part of their diet.

Nevertheless, by their very nature the products of agriculture are still mainly consumed by the local and regional markets. It is even difficult to estimate accurately the amount of home grown food consumed by each inde-

pendent producer on his own farm. Europe therefore offers a considerable market for her own produce.

But Europe is permanently short of foodstuffs and raw materials. So far, she has only been able to offset this deficit by exporting finished products to overseas countries which supplied her with agricultural products or raw materials. She also covered her deficit by charging these same overseas countries for the services of which she long had a practical monopoly : ocean carriage, insurance brokerage, and financial services. To these should be added the resources supplied by dividends on her capital investments in other continents.

To-day, the European deficit has increased. The world distribution of tonnage has been altered to the disadvantage of Europe ; she has run into debt. The home-rule movement of dependent territories, in tropical and sub-tropical regions, has deprived her of important resources that had so far been assured by her capital investments. And there is no certainty that she she will continue to hold her quasi-monopoly of insurance and banking brokerage.

On the other hand, Europe is not a united Continent, neither politically nor economically. The multiplication of national sovereignties has allowed the survival, within her several political frontiers, of agricultural speculations, which would probably have been unjustified if Europe had been a single block.

Moreover, Europe is no more socially uniform than she is politically or economically united. Thus in the agricultural domain we find a very great variety of social situations. Some countries employ scientific methods which assure them high yields, while elsewhere the yields are low as the result of old fashioned systems of farming. The cost in power and the bare cost of farm products varies widely from one place to another.

As a result of this the purchasing power of the several nations, and the purchasing power of the individuals in each nation, is also extremely variable. The standard of living varies from one country to another infinitely more than it does in the much more standardized United States.

The degree of development of social insurances is also very unequal. Now, social progress is shown by the laws which make provision for the worker in his old age, or when affected by accidents, illness, invalidity, or unemployment. These social security laws afford a means for assuring a more equitable distribution of the national income. When a large share of that income is absorbed by a small social minority, the trade circuit, especially that of the trade in agricultural products, is not encouraged. There is a limit to the amount of foodstuffs the well-to-do classes can consume, as it is regulated by the law of saturation. Consequently the incomes of these privileged classes, instead of entering the trade circuit, must seek investment in other enterprises which can absorb accumulated capital, thus further increasing, in periods of depression, the disparity between supply and demand.

Nor does capital accumulate at the same rate in all the European countries.

Another factor which confers a special character on the European market is the great variety of land-tenure systems, and when a land-tenure system is altered, it alters with it the general behaviour of the market for farm products. Light has been thrown on this fact in the monograph on wheat published by FAO in March 1947. We read there :

" It is unlikely that wheat will again be exported in large quantities from South-East Europe. Agrarian reforms in those countries have led to the disappearance of the most important class of great wheat growers. On the small farms now being formed the number of head of cattle will increase as rapidly as possible, and forage cereals will be grown and will partially replace wheat. Even in those regions where the agrarian reform was carried out after World War I, the trend will be to utilize any cereal surplus on the spot, or at most to direct it on to other districts of the same region ".

Monetary instability which has become almost general on the old Continent also contributes to the special structure of the European market. It leads to what is known as " hoarding ". The peasants hesitate to bring out and part with real goods in return for monetary instruments which have a tendency to become

multiples of zero. Moreover, the scarcity of foreign exchange, caused by the deterioration of the national currencies, infallibly drives countries to adopt *autarchic* policies, a prelude to economic warfare and to war itself. Inflation lowers the local purchasing power and as a reaction it paralyses international exchanges.

Political instability and the threat of aggression which have become universal, but which are endemic in Europe, have directed the European market along lines it would not have known had the peoples lived in friendship. The monograph on wheat, from which we quoted above, reprints an extract from a report published in November 1945 by the Swiss Agricultural Committee (*Denkschrift über die Lage der Schweizerischen Landwirtschaft bei Kriegsende* 1945 *und ihre Nachkriegsbegehren vom Schweizerischen Bauernsekretariat*) :

" For some time to come the general and military situation will not be such as to require Switzerland, under a plan or recommendation of an international character, to relinquish her plans for acquiring, at the cost of laborious efforts and many sacrifices, the utmost possible independence for her food supplies, and to direct her efforts towards a « long term programme» such as that advocated at Hot Springs. A return to the disappointing policy of monoculture is inadmissible. It would only be acceptable in a fully pacified world and under an established international order, and any attempt at applying such a policy at the present time would only lead again to world chaos and competition. It is not so easy to readjust agriculture as it is industry. It would therefore be unreasonable to ask any country to readjust its agriculture unless it be given serious guarantees of agricultural and military security ".

Under these conditions of uncertainty countries build up security stocks which they might have refrained from purchasing. They try to become independent for their food supplies in the event, which alas they cannot *a priori* exclude, that war should isolate them and compel them once more to return to a closed economy.

The transition structure of some European countries also brings them up against certain special problems. This is the case, for instance, with Belgium. In pre-war days she imported 50% of her calorie requirements. She alone purchased for her 8,000,000 inhabitants one third or one quarter of the wheat imported by Continental Europe. When World War II came to an end some great producing countries, which before the war exported practically nothing but raw materials, taking advantage of an inelastic demand, forced the importing countries to comply with their wishes and to take finished products. Thus Belgium, instead of importing wheat, was compelled to buy large quantities of flour, and instead of linseed, to import oils and oil-cake, which naturally, reacted at once on her balance of foreign bills, as the cost of handling and processing was higher, and the overseas labour which made this flour, these oils, and these oil-cakes, was more costly than Belgian labour, and this led to a rise in the cost of living.

All this seems to show that there is not a European market. Perhaps, strictly speaking, one might say that there are *several* European markets. But the fact is there is only one *universal* market. And this universality is steadily growing. And this is all to the good. On condition, however, that all have the courage to draw the consequences, forgetting national prejudices and the superstititions of sovereignty.

Europe cannot solve her problems by herself. No more can the other Continents. Not even the wealthiest. The Marshall plan for the reconstruction of Europe affords an illustration of clear-sighted policy. The United States will have great need of the Old World, and of the other parts of the globe to find markets for their production, which has increased 60% since 1939.

All these facts emphasize the universal character of the mission of FAO. But it will only be possible to fulfil this mission successfully if international solidarity becomes a concrete reality. And it must become so on three planes : the success of FAO will depend on the number of the countries which will associate themselves with its efforts. And this re-

quires the reciprocal solidarity of the member countries, of FAO.

But it also requires the co-operation of FAO with the other specialized international organizations. It will not be possible to re-equip Europe without the help of credit, hence the imperative need that FAO works in close association with the International Bank.

But all the credits in the world would be useless if the stability of each of the national currencies continues to be threatened. Hence the need that the efforts of FAO be associated with those of the International Monetary Fund.

It will only be possible to maintain an expansive economy, free from the collapses caused by cyclic depressions when unemployment reduces purchasing power, on condition that the standard of living of the populations of the several countries improves. This is the work, this is the task, of the World Health Organization and of the International Labour Bureau. Social security in itself, by relieving or annulling the effects caused by the stoppage in the flow of wages towards the consuming masses, is an essential factor for price stability, as by maintaining purchasing power it avoids deadly interruptions of the trade circuit.

But all this would be of no avail if the International Trade Organisation did not succed in throwing down trade barriers which obstruct international exchanges.

Lastly, an improvement in the standard of living and the improvement of the technical methods of backward peoples cannot be conceived without a parallel improvement in the general standard of education of the peoples. This is the responsibility of UNESCO.

But even should international solidarity be firmly established on the two planes referred to above, it might still fail to secure the ends in view unless it can be secured on the third plane, that of public opinion. The most ambitious official international organizations will never be more than lifeless academic bodies if they do not associate public opinion with their work, and if they fail to secure its resolute and determined support. Governments wherever they may be will only do that which public opinion demands.

This public opinion is organized in the Chambers of Commerce, the Farmers' Associations, the Trade Unions, the Women's Leagues, the Co-operative Societies. They must be asked to co-operate in building up a world economy based on reciprocal confidence and on faith in international solidarity.

When all is said, the last word will be theirs !

FAO AND THE CENTRAL EUROPEAN PEASANTS

by A. SIBELKA-PERLEBERG

Counsellor to the Hungarian Ministry of Agriculture

The world has been very ill. The recovery is too slow for many people, who may be perhaps a little impatient. Or better still, they do not realize how serious and grave the illness has been, but if we try to imagine what far-reaching roots the evil has had, we shall get a different impression. All people with judgment will be impressed by the fact that real progress in many fields of economic life has been achieved.

Nevertheless, since things are as they are, we must take into account that lack of confidence is one of the main psychological factors in the world to-day. And we must not forget either, that whoever wants to improve things in this world will have to fight and possibly vanquish this feeling.

The changes in the world should not be judged too harshly at present, as we cannot yet know what is good or bad, what will be favourable or unfavourable, for the development of the world. This is especially true with regard to economy and, in particular, for agricultural evolution. Nevertheless, there already exist some basic facts and no plan can be drawn up, no step taken, without giving them due consideration. Among others, is the fact that the central and eastern European countries have undergone a radical change in their agricultural structure : the formerly prevailing large estates have been broken up, divided and distributed among the peasants. Now, by this achievement, the entire life of these countries became something entirely different. To those living outside the sphere of the Continent, the whole Land Reform does not mean more than just a slight change of proprietorship. But if they were to look into the details, quite a row of facts and factors would reveal themselves. The Land Reform — however peacefully it may have been evolved — has not only its ulterior motives, but also a long line of consequences. Instead of a few landowners, there are now many. The new farmers became proprietors of their land in a period of greatest emergency. The lack of capital, livestock, and, in many cases, adequate agricultural education, is a great handicap to their work. On the other hand, the countries concerned carry rather heavy burdens : they have to make up for their war losses, they have to build up practically a new State, very often, literally new homes, and still they have to enter into international competition on the world market of foodstuffs and agricultural commodities.

No doubt, the peasant, will fail : so the sceptics and pessimists think. In actual fact, on a mathematical calculation one would be inclined to say that their efforts, however heroic they may be, will be frustrated. Because, besides the difficulties already mentioned, there are still some others. Suppose the question of : how to produce ? is settled, there might arise another problem, not less dangerous than the first, and that is : what to produce ? because one must face the fact that the last three decades brought along an entire turn in their relation to agricultural production and food consumption, not to mention such obvious facts as, for instance, that wheat production suffered a landslide after the first World War. Since Europe ceased to furnish substantial quantities of bread grains to the consumers, the whole trend of consumption became, and is continuing to become, different. Thus the new peasant would not be able to produce and market the same amount of wheat as his predecessor did, even

if he would be technically fit for it. In this way he is compelled to try another line, which means that from the rather uniform production of *bread grains* and livestock (cattle, horses, hogs, etc.) he must turn to so-called small products: fruit, vegetables, dairy products, poultry, eggs, etc. But this again requires greater experience and knowledge on his part, since these products are only marketable if their quality is of a high standard. There is the dilemma: either the peasants enter into competition immediately, and, having to compete with other better equipped producers, they will fail, or we first try to have them educated, try to get them some capital for investment in fertilizers, machinery, and so on, thus enabling them to reach higher standards. In this case they will be too late, since the next years will be decisive ones, when a hungry world will begin to feed itself again and new customers will be trying to find newer and better sources.

There is only one way out, and this is organization. Organization in a national and international sense. The isolated peasant is lost if he does not join the others who have common interests and who are living under similar conditions. Steps are being taken to promote this common effort in every country, but there is also a great need for international organization.

I think, and all of us working in the same field believe that FAO is the real instrument for it. And now let us speak frankly and sincerely. The politicians and people are afraid of a new war, or at least there is much talk about it. Nobody agrees to it, nobody wants it, but it is still in the air, whether it is a nightmare or not. And if we look back into the past we do not need to be experts in history to realize that of all the reasons and causes which provoked the second World War the economic ones prevailed. The agricultural countries of Europe could not stand the strain imposed upon them by the competition of cheaper overseas grain production. Once the autarchic craze was let loose, each country wanted to produce only for its own needs, everybody wanted to export only, without importing, and paid fancy prices for home products, which upset State finances. Thus, instead of being friendly and collaborating members of a family of nations, the countries, states and people were sitting behind their high walls of custom tariffs, suspicious of each other. From suspicion and competition, inimical feelings were born, which made the road to war even shorter and inevitable.

I believe we do not say too much and we do not overemphasize the importance of FAO when we say that, had there been another FAO in the twenties of this century, had there been somebody, or a corporation of bodies which could undertake some planning in the field of food and agriculture, the second World War might have been avoided. What it would have meant to us all is easy to see. Or, perhaps, it is not even easy. It is beyond our imagination to think how the world would have stood to-day, had its peaceful evolution not been interrupted.

But once again we hold our future in our hands. FAO has started its activities, and the people tilling the soil, working hard from dawn to nightfall, are looking towards FAO full of expectation. They do not as yet realize its possibilities, but they know that something exists, a body, which has the task of helping them. It is our duty to inform them about FAO and also to do everything in our power to help FAO to develop rapidly into the real and unique organization which can and will solve all the problems of the peasants and of all people of goodwill.

SOME DATA ON THE PRESENT STATUS OF NUTRITION IN FRANCE

by J. TRÊMOLIÈRES

Assistant Physician to the Paris Hospitals, Chief of the Nutrition Section of the National Institute of Hygiene

The difficulties met with in making nutrition surveys in peace time, differ from those met with in time of war. The population is less willing to supply information about their food consumption or to submit to clinical and biological examinations. Funds are less easy to obtain. We have therefore been led to modify the methods and the guiding ideas of our nutrition surveys.

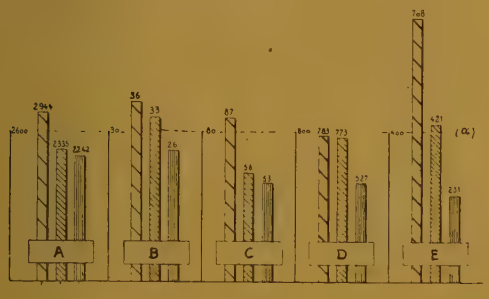
The changes may be summed up as follows :

(1) Dietary surveys are made with the assistance of social, family, trade, and youth groups. Emphasis on the educational and sociological value of these surveys is considered essential.

(2) Clinical surveys have been abandoned and biological examinations are used only for sample cases.

(3) The statistical treatment of the correlation of mortality statistics and food consumption data has given very interesting results.

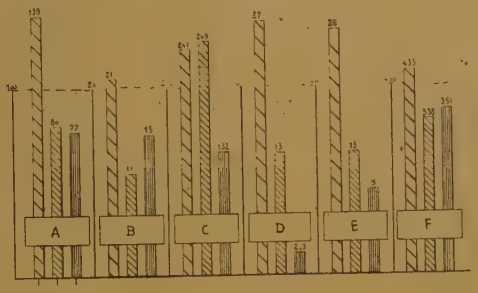
GRAPH I. *Real Food Consumption in Paris, Marseilles and the Rural Districts during* 1946 *(per average person per day).*



Rural districts
Paris
Marseilles

(a) = Theoretical ration
A = Calories
B = Animal proteins (gm)
C = Fats (gm)
D = Calcium (gm)
E = Vitamin A (gm)

GRAPH II. *Real Food Consumption in the Rural Districts, Paris and Marseilles (Average Daily Ration in grams for certain foodstuffs).*



Rural districts
Paris
Marseilles

A = Meat and pork products
B = Eggs
C = Milk
D = Butter
E = Cheese
F = Bread

The system has the advantage that it is only an improvement on the one normally in use in the country.

(4) The same holds true for data on weight and height which have proved inexpensive and very instructive when correlated with data on food consumption.

(5) The utilization of these data is entrusted to a nutrition expert assisted by a statistician, and not to a statistician alone.

Here are the principal data we have thus been able to collect in France recently.

I. — ACTUAL FOOD CONSUMPTION

The data are the result of tests made by the method of weighing the food consumed by a family for a week. Samples of these tests are shown in the Bulletins of the National Institute of Hygiene. Taken as a

whole, the classification by age and sex is the same as that of the population studied. The social groups considered belong mostly to the lower middle class.

TABLE I. — *Real Food Consumption*, 1946.

Components	Paris	Marseilles	Rural Districts	Average sized towns
No. of families	299	564	119	194
No. of individuals	1,401	2,284	682	818
Calories	2,335	2,242	2,944	2,440
Glucides (*gm.*)	361	347	448	371
Animal proteins (*gm.*)	33	26	36	31
Vegetable proteins (*gm.*)	41	53	54	48
Fats (*gm.*)	58	53	87	70
Calcium (*mgm.*)	773	527	783	696
Vitamin *A* (gamma)	421	231	708	561
Vitamin *B1*	1,428	1,716	2,295	2,048
Vitamin *B2*	1,336	1,244	1,850	1,633
Vitamin *C* (*mgm.*)	83	106	105	116
Meat (*gm.*)	80	77	139	105
Fish	25	37	9	26
Eggs	11	15	21	10
Milk	249	132	241	208
Cheese	13	9	26	18
Butter	13	2.3	27	15
Fats	17	22	16	18
Bread	338	351	433	364
Potatoes	198	181	307	336
Pulses	21	24	22	18
Fresh vegetables	215	324	207	231
Fruit	72	123	135	102
Sugar, jams	47	32	40	42

The calculations for Marseilles and rural districts have been made with the help of the U.N.R.R.A. tables; for Paris with the tables of Mme. Randoin. In Table II, Consumers are classified according to their consumption of animal proteins.

Table III shows the amount of official rations in the ration actually consumed.

TABLE II. — *Percentage classification of Consumers by their Consumption of Animal Proteins* (grams per day) 1946.

Region	10 gm.	10 to 19 gm.	20 to 29 gm.	30 to 39 gm.	+
Marseilles	7.2	28.2	34.3	18.9	11.1
Paris	0.4	7.5	30.7	42	19.1
Rural districts	1.6	14.2	17.7	30.2	36.1

TABLE III. — *Real Ration and Official Ration in Paris and Marseilles in* 1946.

Components	Paris			Marseilles		
	Real Ration	Official Ration	%	Real Ration	Official Ration	%
Calories	2,335	1,424	60.9	2,242	1,330	59.3
Animal proteins	33	13	39.3	26	9.3	35.7
Fats	58	38	65.5	53	33	62.2
Meat & pork products	80	49	61.1	77	26	33.7
Butter	13	7	53.8	9	2.3	25.5

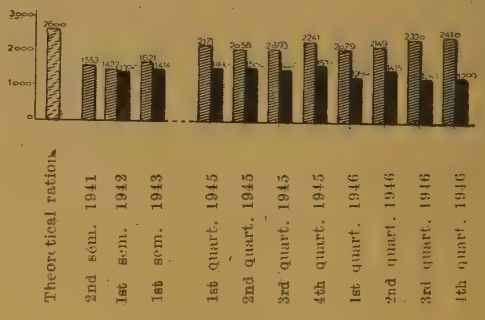
COMPARISON WITH PREVIOUS YEARS.

Graph III shows the composition of real rations in Marseilles, and graph IV that, in Paris.

Table IV, drawn up on the basis of the dietary surveys made by Mme. Randoin before the war, shows the real average consumption for France as a whole and for Brittany.

GRAPH III. *Food*

Composition of real Rations in Marseilles
(Calorie Ration per average person per day).



Animal Proteins (gm). years
1941, 1942, 1943, 1945 and 1946

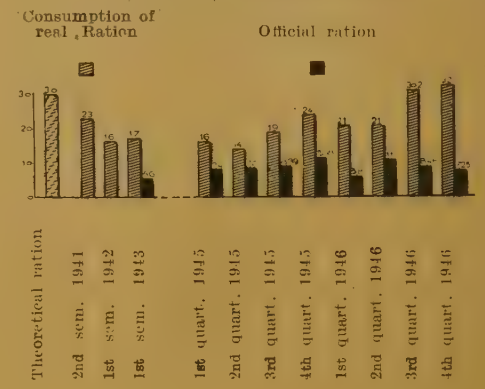


TABLE IV. — *Real Consumption for France as a whole and for Brittany in* 1936, 1938, 1939.

Components (gm)	France as a whole	Brittany
Meat	115	106
Fish	16	7
Eggs	17	21
Milk	286	592
Cheese	32	6
Butter	23	58
Fats	3.6	5
Oil	13	6
Bread	326	378
Starchy foods	35	60
Potatoes	152	203
Pulses	12	6
Fresh vegetables	161	166
Fruit	78	19
Dried fruit	4	6
Jams and preserves	6	—
Groceries (sugar)	67	66
Beverages	447	351
Calories	2,499	2,958

TREND OF CONSUMPTION DURING THE LAST QUARTERS OF 1946 AND THE 1ST QUARTER OF 1947.

Table V shows consumption during the 3rd quarter of 1946 in Marseilles and Paris :

CONCLUSIONS.

From the study of these data we may draw the following conclusions, in so far as our studies are representative :

(1) Average food consumption in 1946 provided the physiologically acceptable minimum except in Marseilles where the deficiencies of animal proteins, calcium, and vitamin *A* were evident. The inequalities in distribution continue to be very marked ;

(2) There was a definite improvement in the situation in 1946 as compared to previous years in the large towns for which the surveys were made ;

(3) Nevertheless, consumption in large towns has not returned to the pre-war level ;

(4) A tendency to a reduction of consumption in the towns has become evident since the 4th quarter of 1946 especially in the case of the more expensive foods.

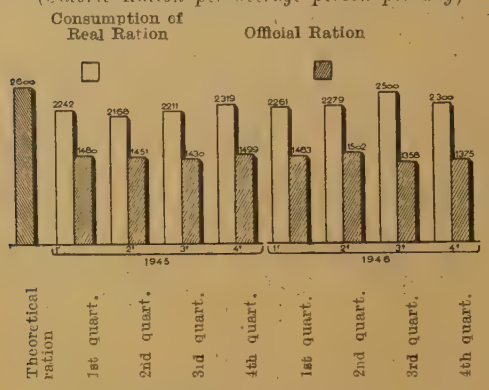
(5) Our surveys are not sufficiently representative and reveal variations too great to allow an estimate of present day average French consumption.

TABLE V. — *Trend of Consumption during the last two Quarters of* 1946 *and the first Quarter of* 1947.

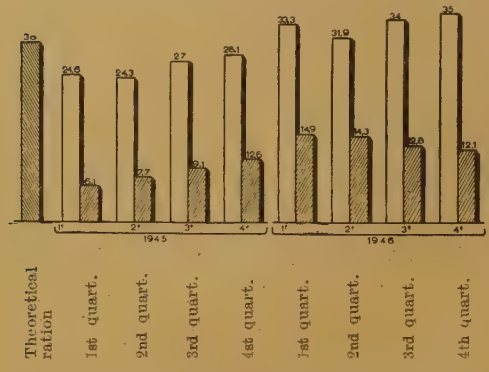
Components	PARIS			MARSEILLES		
	3rd. Quart. 1946	4th Quart. 1946	1st Quart. 1947	3rd Quart 1946	4th Quart. 1946	1st Quart. 1947
No. of families	54	85	88	113	152	165
No. of persons	268	399	419	347	579	696
Calories	2,500	2,300	2,398	2,330	2,410	2,357
Carbohydrates (*gm.*)	380	363	381	350	368	353
Animal proteins (*gm.*)	34	35	33	30.2	32	33
Vegetable proteins(*gm.*)	43.2	38	39	51	53	53
Fats (*gm.*)	64	60	56	59	58	60
Calcium (*mgm.*)	790	732	640	588	600	604
Vitamin *A* (gamma)	457	448	494	247	345	370
Vitamin *B1*	1,532	1,553	1,512	1,950	1,851	1,688
Vitamin *B2*	1,413	1,411	1,300	1,250	1,539	1,291
Vitamin *C* (*mgm.*)	102	101	82	114	113	102
Meat (*gm*)	76	99	96	73.5	104	83
Fish	24.5	26	26	51	33	42
Eggs	15	8	10	24.5	15	17
Milk	258	238	167	120	158	137
Cheese	22	18	15	24.4	20	9
Butter	17	15	15	3.2	3	3
Fats	20	19	14	25	20	21
Bread	375	329	337	359	352	352
Potatoes	234	248	257	208	292	251
Dry vegetables (pulses)	11	14	22	14.3	16	31
Fresh vegetables	247	245	141	370	322	252
Fruit	121	133	81	208	162	98
Sugar, jams	42	41	49	36	30	34

GRAPH IV.

Composition of Real Rations in Paris
(Calorie Ration per average person per day)



Animal Proteins (gm.). years 1945 and 1946



II. — NUTRITION AND MORTALITY

The data may be summed up as follows. We must however bear in mind that mortality statistics have been very unsatisfactory since 1940, due particularly to uncertainty of the population data. M. Moine, the statistician of the National Institute of Hygiene, considers that a variation of more than 3 % may be considered as significant.

(1) During the occupation there was an important rise in the death rate in the urban, industrial, and Mediterranean coast departments, and a fall in the rich rural departments :

Percentage Variations in 1941/43 *compared to* 1936/38

Bouches du Rhône (Marseilles)	+ 57.3	Mayenne	— 10.9
Rhône (Lyons)	+ 29.2	Orne	— 10.4
Seine (Paris)	+ 24.6	Haute-Marne	9.0
Nord	+ 12.9	Indre	— 11.0

The previous data give an idea of the various kind of food in those departments.

(2) In 1945 :

(*a*) the variations continued. Reductions are found in the departments where the death-rate had already been falling since 1940, that is to say, where food consumption was better than before the war. The rise has continued in the departments where it had already been rising for 4 years, and where there was a more or less severe shortage of food.

Percentage variations as compared to 1936-38, *decreasing.*

		1941-43	1945	1946
Finistère	Brittany	— 7.5	— 4.1	— 15
Mayenne	Brittany	— 10.9	— 3.5	— 18.4
Morbihan	Brittany	— 5.9		— 23.7
Orne	Normandy	— 10.4	— 7.1	— 20
Eure	Normandy	+ 1.8	— 6.6	— 20.3
Seine		+ 24.6	— 0.8	— 18.5
Nord		+ 12.9	+ 12.2	0
Rhône		+ 29.2	+ 15.3	—
Bouches-du-Rhône		+ 57.3	+ 35.9	— 21.7
Var		+ 40.5	+ 32.1	— 21.7
France as a whole		+ 10.5	+ 9.8	— 13.7

(*b*) In 1941-43 the variation in the death-rate affected above all the old people and adults over 30, and more especially men.

In 1945 the rise appeared essentially in those under 30 years of age, especially the males, and ended with a record rise in infant mortality.

The phenomenon is one which it would be extremely interesting to study more thoroughly.

General mortality classified by sex and age per 10,000 *inhabitants of each series in* 1935-37 *and in* 1945.

Age	Males			Females		
	1935 1937	1945	Percentage variation over 1935-37	1953 1937	1945	Percentage variation over 1935-37
0/ 1 years	759	1,305	+ 72	576	1,048	+ 82
1/ 4 »	56	85	+ 52	49	73	+ 49
5/ 9 »	19	20	+ 5	17	17	—
10/14 »	14	18	+ 29	14	12	— 4
15/29 »	30	35	+ 17	30	21	— 30
20/24 »	41	59	+ 44	36	31	— 14
25/29 »	48	63	+ 29	40	32	— 20
30/34 »	60	75	+ 25	41	38	— 7
35/39 »	79	86	+ 9	48	40	— 17
40/44 »	103	113	+ 9	60	47	— 22
45/49 »	127	122	— 4	77	61	— 21
50/54 »	173	155	— 10	105	86	— 18
55/59 »	232	212	— 9	140	124	— 11
60/64 »	347	310	— 11	219	190	— 13
65/69 »	495	471	— 5	328	318	— 3
70/79 »	956	854	— 11	710	670	— 6
80 & +	2,466	2,060	— 16	2,003	1,790	— 11

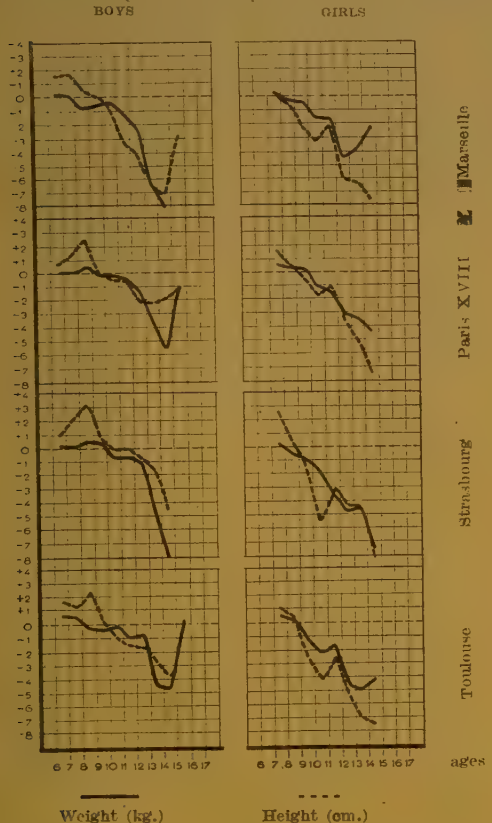
(*c*) The fall in the death rate in 1946 may be explained as a result of the disappearance of the more vulnerable persons which occurred in the previous years.

(*d*) Space does not allow us to study these variations here in detail in relation to their causes, and more especially in relation to tuberculosis mortality. That was the main cause of the variations from 1941 to 1943, and in 1945 the deaths from this cause fell to a rate never before attained in France : 80 per 100,000 inhabitants. Now, in 1945 the rise in the death-rate affected the young, that is to say, those in whom the epidemiological factor, and not the nutrition factor, plays the leading part in relation to tuberculosis.

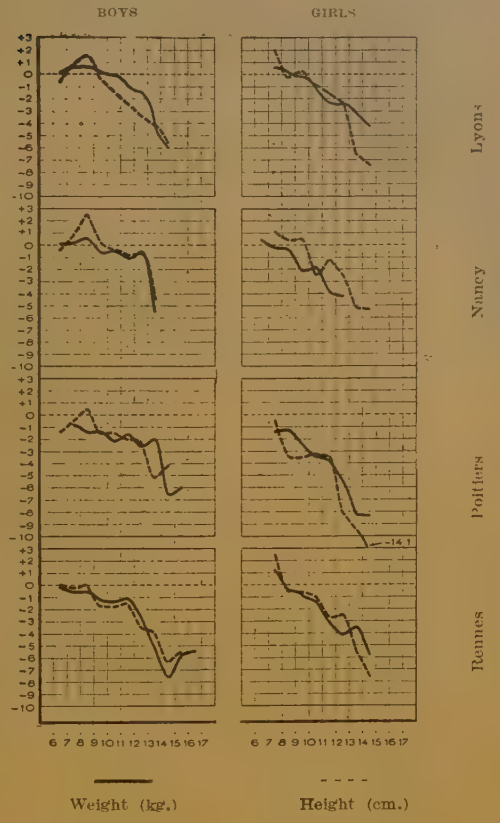
III. — NUTRITION AND GROWTH

A survey covering 30,000 children between the ages of 7 and 15 in 9 towns of France,

GRAPH V. *Deficit in Height and Weight of Children in November* 1945 *compared to Paris XV.* 1935



GRAPH VI. *Deficit in Height and Weight in November* 1945 *compared to Paris* XV, 1935



shows that in November 1945 in French towns there was still a deficit of 7 centimetres and 5 kg. for girls and of 4 cm. and 6 kg. for boys. These deficits appeared at about the age of 9 and increased very rapidly, reaching a maximum at about the age of 14. The deficit in dairy products of the rations consumed by these groups (250 cc. of milk per day distributed irregularly) is probably the cause of this phenomenon. It should also be remembered that vulnerable groups have not benefited by the general improvement in food supplies according to their needs.

Nevertheless, the condition of the children in 1945 showed an improvement compared to their previous condition (graphs V and VI).

Thus in November 1944 the deficiency of girls of 14 in height in Paris XIIIth district was 11 cm. One year later it had fallen to 7 cm. In the case of boys it had been 7 cm.

and had fallen to 3 cm. Other surveys show similar decreases amounting to about 50 %, thus showing how sensitive growth is to nutrition.

In the case of girls, the decrease of height was more marked than that of weight. In the case of boys, weight decrease was more noticeable. The decrease in this respect declines more rapidly in the case of girls than in that of boys.

Surveys on the average weight of adults in Paris reveal in 1945 a persistent average loss of weight of about 11 % as compared to pre-war figures (Graph VII).

IV. — CLINICAL TESTS OF MALNUTRITION

An examination of 30,000 children of school age in 1945-46 leads to the following conclusions :

(1) that clinical cases of avitaminosis do not now present a nutrition problem in France ;

(2) that the method known as milder forms of avitaminosis is not suited to nutrition conditions in France.

V. — BIOLOGICAL MALNUTRITION TESTS

For lack of space, we only give here the results of the surveys made in Marseilles :

Biological tests - Marseilles.

Components	1939	1941	1945		1946		1st Quarter 1947
			1st half	2nd half	1st half	2nd half	
Vitamin *A* (serum) (1)	30	10.3	6.8	2.7	5.2	15.2	11.35
Adaptometry	13	30	47	65	51.9	—	—
Red corpuscles (3)	—	4.48	3.84	4.05	3.9	4.06	—
Haemoglobin (*mg*) (4)	—	12.7	12.5	12.5	12.7	11.7	—
Carotene serum (2)	—	—	—	—	—	131	155.4
Vitamin *C* (gamma)	—	—	184	271	277	—	—

(1) (2) Spectrophotometric method of A. Chevalier
(3) Method using the Evelyn colorimeter as adapted by Fäubert.
(4) The Evelyn colorimeter.

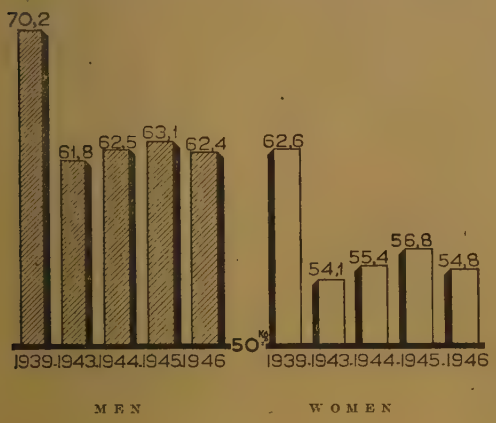
VI. — CONCLUSION

The findings of the surveys and statistics mentioned above, in so far as they are representative, lead to the following conclusions :

(1) The nutrition conditions of the French population have definitely improved in 1946 as compared to 1945 and the occupation years ;

(2) This improvement has not sufficiently affected the vulnerable groups. The striking deficiencies in the growth of adolescent children, the fact that higher mortality affects the young age groups, the still high infant mortality rate, indicate the great need of improving nutrition of those groups. The irregular ration of 250 cc. of milk for the *J*2 and *J*3 groups in the towns, is all the more inadequate since April 1946, as dairy products are no longer distributed in the schools.

GRAPH VII. *Average variations in the Weight of employees, (6000 cases - Textile Union - Paris).*



(3) The food supply of the great towns (more especially on the Mediterranean coast) remains at a level of the physiological minimum, all the more critical as, since the last two quarters of 1946, there has been a marked decline in the consumption, more especially of the more expensive foods.

(4) There is a an average deficit of about 200 calories per person, and a marked deficit of vitamin *A* and of calcium, that is to say, a deficit of dairy products.

In any case, the average food consumption, the average weight, and the results of the biological test for malnutrition show that conditions are now worse than they were in the pre-war period.

In this and subsequent numbers of the Review a series of articles dealing with agricultural engineering will be published.

UNIFICATION OF THE METHODS OF TESTING AGRICULTURAL MACHINES

by G. Boeckaert
PRESIDENT OF THE C.I.G.R.

The question of the unification of the methods of testing agricultural machines has always been one which has claimed the attention of specialists who, while improving the equipment of their experiment stations, devise and complete their methods of testing.

Ever since mechanization started, the Royal Agricultural Society undertook many tests in England and devoted large sums of money to the construction of a registering dynamometer. The Paris machine testing station, under the direction of Prof. RINGELMANN, laid down rules for testing many machines and created the requisite experiment outfit for making the tests.

In Germany about the same time many experimental stations were actively at work. The great diversity which exists in the methods of testing made it difficult to compare results and induced Prof. REZEK of Vienna to present in 1907, at a meeting of the directors of experiment stations held in Berlin, a report on the standardization of the methods of testing agricultural machines. In 1909 a work was published : " *International geltende Formen für die Prüfung landwirtschaftlicher Maschinen und Geräte* ".

But the development of agricultural machinery had as its corollary the improvement of testing methods and after the establishment, in 1930, of the International Commission of Agricultural Engineering (C. I. G. R.) the question of the unification of the methods of testing has been taken up again at its conferences and annual meetings. In 1933 at the international conference on agricultural machinery three members of the C. I. R. G. submitted the follow-

ing reports : M. Ballu (France) : Principles for unifying the methods of testing agricultural machines ; Mr. Bouckaert (Belgium) : Establishment of a centre of information and documentation on the methods of testing agricultural machines ; Mr. Santini (Italy) : On the unification of the methods of testing motors and machines for cultivating the land.

After discussing these reports it was decided to study, jointly with the F. I. T. A., the organization of a centre of documentation on the methods of testing agricultural machinery. Notwithstanding the value such a centre would have had, it was not found possible to organize it, partly for lack of means, and partly because of the complex nature of the problem ; it nevertheless has been possible for the specialists to keep in touch and continue the study of the matter which the Temporary European Bureau of the FAO – convinced as it is of its importance for the scientific mechanization of agriculture – is now taking up.

* * *

Agricultural machinery can be tested from various points of view, that may be classified as follows. (We will deal with the question of the utilization of new machines in a special report) :

1. Purely technological enquiries,
2. Laboratory enquiries or theoretical tests,
3. Practical tests,
4. Collective demonstrations.

1. — *Purely technological* enquiries include the study of special problems such as, for instance, the study of the flow of seed down a tube, the study of the construction of an apparatus for measuring the work done by a tilling machine, or for measuring the power transmitted by the power take-off of a tractor, etc.

2. — *Theoretical enquiries* and tests are made in the laboratory on existing machines or on models of those built by manufacturers or by Research Stations. Such are laboratory tests of a tractor in order to ascertain the fuel consumption at the different speeds of the motor, or to determine the available power and the efficiency of the driving gear at the outer rim of the wheels for hauling at the pulleys or at the power take-off. With regard to tractors we do not deal here with enquiries relative to their construction and in this enumeration we only consider tests relative to their practical application.

The methods used for laboratory tests should make it possible to secure comparable results and it should be possible to repeat the tests again under similar conditions.

3. — *Practical tests* are the most interesting, as they establish the economic value of the machines. Nevertheless they introduce so many elements of uncertainty that it is difficult to compare the various results obtained unless specialists first agree on the basic conditions to be observed.

Let us take the case of a tractor, and let ploughing be the practical test made. We introduce a new factor, that of the plough itself. The power available at the rim of the wheels is not transformed in its entirety into useful work ; part is absorbed by the displacement of the tractor itself, another by the plough (its displacement and the loosening of the soil).

If the land is flat, displacement resistance is due to the characteristics of the soil: degree of humidity, compressibility, adhesion of the soil to the wheels, weight of the soil. These factors affect the tendency of the wheels to slip and the efficiency of the tractor.

If the total resistance of the plough is ascertained by dynamometric tests, the solution of the different problems raised by the reaction of the wheels when at work is still in the experimental stage.

In the presence of these many difficulties, the specific consumption of motor fuel per hectare or per cubic meter of soil moved, has been selected as the term of comparison for tractors, even though the method is an imperfect one, as it fails to take into account the degree of loosening of the soil. Easy as this mode of procedure may seem, it is necessary to possess equipment which will

enable the testers not to be dependent on a tractor driver, for it is not easy to have a technician at one's disposal who is on the spot, to exercise constant control over a period of, for instance, 300 hours. An automatic meter should be used for measuring fuel consumption ; and a registering apparatus for measuring the time employed in use and not in use.

Another question which should be classified is that of the distribution of the 300 hours prescribed for testing the tractor between the several kinds of work it is to perform.

It would also be desirable to fix the conditions of the test so that tractors of the same type may work at the same power.

It will be possible to determine with relative facility the different factors affecting cost, but the same difficulties will be met with in determining the *quality* of the work performed, which is now done by means of more or less approximate judgments.

The conclusions on the economic value of utilization should not be lost sight of in this study, as the question of cost is of importance for farming.

4. — *Collective demonstrations.* — The difficulties met with in carrying out any accurate control during public demonstrations, makes it seem advisable not to combine them with research work. Public demonstrations are first and foremost spectacular in their character, and afford an excellent means of propaganda for spreading the idea of mechanization among the masses and for stimulating emulation among the young farmers. They may even be of some practical value as experts may give well founded opinions after examining a group of different machines at work, all of which serve the same purpose. Nevertheless the organization of such events should be studied so as to lay down rules which will bring them within the general framework of unification.

A problem which should not be lost sight of is that of the construction of the testing apparatus, which has acquired great importance with the growth of mechanization and the motorization of tillage.

This brief statement shows that the unification of testing methods presents difficult problems but it also shows that their solution is urgent as the progress of mechanization depends on it.

MECHANIZATION AND STANDARDIZATION

by C. Boudry

Chief of the Testing Station for Agricultural Machinery, Marcelin - sur - Morges

The need for mechanizing agriculture depends on several factors such as the scarcity of labour and draft animals, the cost of labour and machinery, the size of the farms and the kind of farming, extensive or intensive.

The kind of mechanization will therefore differ widely with the relative importance of factors.

While it is not possible to lay down definite rules for all cases, it is nevertheless interesting to group the materials of mechanization into a few large classes so as to analyse their characteristics better.

This analysis leads us more especially to note that while in some countries the standardization of machinery may present some advantages, the " standardization of adaptation " of farm implements to engines is a condition *sine qua non* for the mechanization of the small farm.

It is this matter of such importance for Europe that we propose to study here.

Labour is the basis of all mechanization. The preparation of the soil more than other work, calls for power. Therefore the motor is suited, to ploughing, by its great capacity and the fact that it only consumes petrol when working, that is to say when drawing the plough. Hence its name of " tractor " (machine for traction), which is no longer suited when mechanization is carried further, that is to say, when the tractor ceases to be a steel horse and becomes an engine used for many purposes.

Some countries, such as Italy, where labour is abundant and there is a sufficiency of draft animals, are still in the early stages of mechanization; the tractor is only used for ploughing when the heavy soil calls for great power or when the time available for doing the work is limited.

It would seem, on the other hand, that the United States have reached the most advanced stage. There labour is costly. The labourer is unwilling to make muscular effort when it can be made by a machine. Compared to his expensive manual labour, the cost of the machines is moderate. The farms cover comparatively large areas with an average of 40 to 60 hectares. The kind of farming practised is extensive, and monoculture often prevails over polyculture.

Under these conditions, mechanization in the United States tends towards the use of specialized machines. The American farmers use one tractor for ploughing, another for hoeing, sometimes an average sized tractor and a truck. Each machine has characteristic features of its own, suited to the performance of a special job, so that each operation is carried out under the most favourable conditions as regards cost and rapidity.

To avoid wasting the valuable time of expensive labour when changing from one kind of work to another, the American farmer requires that his tractor should have for the purposes of a coupling-hook, a flat iron sheet with a hole (a drawbar) to receive the clevis of the implement dragged or hauled. The size of the fields is such as to allow the use of a long convoy consisting of a tractor, a hitch and an implement.

It is true, especially in the case of hoeing and monoculture, that there is a great preference for implements drawn by the tractor. If the tractor can be used for some weeks

for hoeing, or mowing, or ploughing only, then it is worth while to spend a whole half day fixing the implement to the tractor.

If the two stages, that of Italy and that of the United States, are very far apart, it should not for that reason be supposed that the normal inevitable development of mechanization starts from the first stage to reach the last, passing through a series of intermediate stages.

An attempt to direct mechanization in all countries on lines copied from those followed in the United States would be an easy method, but the results might in the end turn out to be unfavourable.

In Europe on the whole, (excluding conditions peculiar to certain regions) conditions are decidedly different.

The density of the population is higher and agriculture is intensive. Machinery is relatively speaking more expensive, as a tractor costs from 500 to 1000 hours of wages in the United States and in Europe sometimes as much as 5,000 to 10,000 such hours.

In many countries the average size of the farm is from 6 to 7 hectares, and from 15 to 20 in the more favoured countries. Monoculture is the exception in Europe, and this makes the use of the specialized tractor impossible.

In Europe there are two possibilities for mechanization. The first would be to allow things to develop by themselves, on the simple basis of the law of supply and demand. Each farmer, each trader, each manufacturer freely selects his machines and the solution of his problems.

The desire to follow the line of least resistance, and the impossibility for each individual to do anything but adopt detailed solutions, having in view his own particular case, will automatically entail action based on conditions as they exist, and consequently on conditions as they exist in the United States. European agriculture will thus adapt itself to American machinery. Little by little the small farms will make way for the large ones, as they alone will be in a position to acquire the necessary number of relatively expensive machines.

As European agriculture is characterized by an intensive cultivation of many crops, the type of farm will necessarily become that of the large scale farming enterprise, employing a large number of wage-workers. The same machines will lead in the United States and in Europe to different types of farming enterprises. In the United States, where extensive monoculture is the rule, the type will not differ much from that of the family farm ; whereas in Europe the farm will cease to be a family undertaking, and will make way for an agricultural industry.

The second possibility for the mechanization of European agriculture consists in co-ordinating its growth so that it may develop implements suited to the needs of :

— a farm of small size (e. g., from 6 to 15 hectares) ;

— a farm operated by the family, using little hired labour ;

— polyculture ;

— farming with labour which is low in cost, compared to that of the machines.

To state the problem is not to solve it; nevertheless certain conditions that must be fulfilled are thus made evident.

(*A*) The small European farmer cannot have both a horse and a tractor, or two tractors. In other words, the head of the family does not possess the means to drive a tractor when a horse or another tractor is laid up, because he has not at his disposal the services of another driver. The small farm tractor must therefore be one which can be economically adjusted to all kinds of work, from the lightest to the heaviest, from the slowest to the most rapid.

The motor must therefore be one which can work at high power when turning at full speeed, but whose speed can be lowered and its power reduced. The speed-gear must permit the regulation of speed so as to allow not only the slow speeds required for roto-tilling, replanting, or ploughing, but also the high speeds required for transport.

(*B*) The small farmer engaged in Euro-

pean differentiated agriculture, must undertake different kinds of work each day. For the purposes of illustration, let us say that early in the morning he must mow his grass and carry it elsewhere for his livestock; then, leaving the mowing machine and the farm wagon, he must drive and work the harvester for a few hours, after which he must load and store his grain. During the same day he must attach the plough to his tractor to plough up the stubble, and then attach a seed drill to it to sow the land thus broken up. At the end of the day he will have to drive to a neighbouring place, perhaps to deliver his milk or for other purposes.

It is therefore essential that each of the implements for working or cultivating be of a kind that can be easily and rapidly attached to the tractor and detached. A solution which would consist in taking out of a box a large number of pieces, plates, straps, screws, bolts, levers, washers, and wrenches, and which would take some hours of skilled work to assemble and attach to a tractor, in order to drive a plough, must be discarded at once as unsuitable for a small farm.

(*C*) As the farm is small, and divided into many fields for the several crops, the size of each field is very modest. A long implement attached to the tractor is therefore impractical, as the space that would be required at each end of the field for turning and also that occupied by the implement itself, would be excessive in relation to the size of the field.

The implement must therefore necessarily be one that can be coupled directly to the tractor. Also the fact that the farm is worked by the family makes this necessary, as the farmer must be able to run it even if he is alone. He must be the driver of both the tractor and the implement; and so he must have the levers for driving the tractor in front of him and those for regulating the implement must be within his reach.

(*D*) The small farmer is not a man of means. He will first buy a low power tractor to draw the farm implements previously drawn by draft animals. From year to year he will complete his outfit by the purchase of implements which can be fitted to his tractor. It may take him as much as ten years before his outfit is complete.

It is then that the question of replacing the tractor will arise. The farmer will then certainly get a tractor of a more powerful type, provided it is one to which he can attach all the implements he used with the old one. Otherwise, he will give up the idea of buying a new tractor and will find himself compelled to meet excessive costs for repairs.

It is therefore important that the "standardization of adaptation" of the implements to be attached to the tractor should not differ for each type of tractor, but that it should be the same for those of different horse power. To make the matter clear, it may be said that in tractors of varying power, from 5 to 60 horsepower, the power take-off must be at the same height from the ground, with the same grooves, turning in the same direction, and at the same speed. From five to sixty horsepower the tenon devices of the several implements must all be identical. From five to sixty horsepower, for all tractors with a seat for the driver, the track between the wheels should be either the normal one or one of the two or three possible track widths that will be agreed on.

Not less than European agriculture, European industry also consists of a great number of small businesses; it would be impossible to have for Europe one single factory, constructing agricultural machinery to meet the whole program of requirements, and able to undertake research work on the solution of the problems involved.

It is therefore desirable that the many European factories manufacturing tractors and farm implements should agree to adopt certain rules which will make it possible for their output to facilitate the mechanization of small European farms.

It is also important to avoid confusion between two kinds of standardization. Industrial standardization tries to find gauges

which will make it possible to interchange the various pieces used in constructing a machine; the threads of screws, shafts, cogs, and ball-bearings are being slowly, but surely standardized in the course of years.

Another kind of standardization which is essential for the farmer, is that of adapting one machine to another.

An electric bulb of any candle power or make can be screwed into any socket.

A railway car, with few exceptions, of any country can run on any rails and be attached to any train. A standardization of adaptation has been secured, which nevertheless leaves each manufacturer a wide degree of latitude.

Now, if European agriculture is to be mechanized, and that means, if it is to hold its own in the course of years, a high degree of standardization must be adopted, as it has been in the case of electric bulbs, and railways.

To secure this, agreement must be international and it must be the result of an exchange of views between the users of the machines, i. e. the farmers, and the manufacturers. It is necessary that this agreement be reached without delay, for at present Europe is unable to produce a sufficiency of foodstuffs to meet her needs and this is essentially due to the insufficient mechanical equipment of the farms.

NEWS ITEMS

NUTRITION

News from Czechoslovakia

O The Czechoslovak National FAO Committee has set up ten sub-committees, covering all spheres of FAO activities, and which are now occupied in preparing a report for submission to the National Committee. On the basis of these reports a complete statement for the Annual Conference of FAO at Geneva will be compiled.

O The Government was forced to reduce food rations in view of the inadequate supplies of meat and grain. The meat ration was reduced by 400 grams for all consumers for the period from May 1st to 31st ; offal, which hitherto was unrationed, is now on ration cards and the category of self-suppliers of beef is cancelled. Consumers over 20 years of age now only receive 2,000 grams of wheat bread instead of 4,000 grams and the ration of wheat flour is substituted by an equal quantity of rye bread. The wheat rations of flour for children under 6 remain unchanged. All consumers are entitled to buy 100 grams of sugar instead of 500 grams of white bread.

O All efforts are being made to secure better feeding of children at school ; the age for those involved in this scheme has been raised from 11 to 15 and the milk allocation has been increased from 1/8 to 1/4 litre per day. At the same time a scheme providing cheaper milk for expectant mothers and children under 6 years has been put into operation.

O Satisfying news is being reported inasmuch as the total cost of living index figure of a manual workers' family declined by 5 % in April as compared to March 1947 ; food being 9 % and clothing 6.6 % lower.

O Five egg-freezing stations will be set up ; work on the first in Znojmo started in June. This station is to cover 43,000 square feet at a cost of 52 million crowns.

O The Minister of Food, Mr. Václav Majer, said in his radio speech on May 6th, that the farmers ought to increase, wherever possible, the deliveries of potatoes and other agricultural products, principally beef, of which a considerable decrease was noted during the last few weeks. The papers indicate that the reason for these cuts is the decrease in imports, which have not reached the expected figure. Actually the Government is trying to increase the volume of the farmers' deliveries by using the incentive of higher prices and issuing permits for heavy foot-wear to those who deliver 5 quintals of potatoes before May 20th.

O After his return from Holland, Mr. Majer recommended his fellow-countrymen to use Dutch refrigerating plants which should serve as models. Mr. Majer also said he had exhaustive talks with the competent authorities on economic cooperation between Czechoslovakia and Holland, especially with regard to nutrition.

O On May 10th the Exhibition of Food and Food Industry was opened in Prague by the Minister of Food. The Exhibition shows the development in food industries and nutrition in Czechoslovakia, and emphasizes the importance of proper nutrition according to the most modern principles based on experience and scientific research.

O Although the winter was severe the autumn-planted cereals came through in fairly good condition. There were, however, large losses in red clover, alfalfa and particularly in the greatly needed oil-seeds. Due to cold and rainy weather throughout March and rainless periods until the middle of May, the growth of most of the crops was retarded. In most parts of the country the prospects are that grain and straw yields will be below average. The spring-planted oil-seeds are in comparatively good condition, but the yield will be considerably below the amount planned for.

O On May 8th the National Constituent Assembly passed a Bill on the final registration of agricultural

property which has been confiscated. Thereby the 135,000 settlers and 250.000 applicants for family dwellings have become the legal proprietors of agricultural settlements, houses, etc. A large resettlement scheme has yet to be put into operation, as there are at present 70,000 hectares of land still available for this purpose ; it is probable that part of this land will be divided among the emigrants from Yugoslavia, Bulgaria and Roumania, and part of it will be administered by the State.

o One of the most significant developments of post-war agriculture in Czechoslovakia is that of pasture cooperatives in the mountainous and hilly regions along the west and northwest borders, particularly those areas which were formerly occupied by German farmers. Land unsuitable for cultivation is being converted into pasture and in some cases into forest, in accordance with detailed plans calculated to insure the best use of the land.

o An acute man-power shortage is still being felt in agriculture. The Government, in collaboration with the agricultural organizations, has worked out an extensive organizational plan for volunteer working squads from the town populations. Czechoslovak agriculture will also be assisted by 6,000 Bulgarian workers, while a further 6,000 Bulgarians are to arrive in the near future. Arrangements have been made with the Roumanian Government for the recruitment of 15,000 agricultural workers who will go to Czechoslovakia with their families. Youths born in 1928 and 1927 will be called up for compulsory agricultural labour ; the same applies to those who have not already completed this duty last year.

o At its annual Election Meeting on May 7th, 1947, the Czechoslovak Academy of Agriculture elected Sir John Boyd Orr, Director-General of FAO, Mr. E.R. Henson, Washington, and Mr. H.C. Hanson, FAO representative in Prague, as honorary members of the Academy. This membership is being bestowed on prominent agricultural scientific workers as the highest distinction awarded by the Czechoslovak Academy of Agriculture.

o Dr. M.M. Kaplan, an authority on veterinary medicine, was the first FAO specialist to visit Czechoslovakia. From 9th to 19th April he gave lectures and laboratory demonstrations for veterinarians throughout the country. He handed the Chief of the Veterinary Section of the Ministry of Health a supply of Newcastle disease virus (poultry) and reprints of different technical publications not available in Czechoslovakia.

o Miss Ritchie, from FAO, Washington, visited Prague between May 9th and 15th, in order to collect information for the Annual Conference of FAO.

Report of experts on nutrition

In accordance with the recommendation of the Conference of the European National FAO Committees held in Rome from 30. June to 2. July 1947, this meeting of experts on the nutrition problems of Europe was convened by the Temporary European Office of FAO, for the purpose of exchanging views on the most urgent nutrition problems encountered in their respective countries and of indicating the difficulties experienced in carrying out their programmes.

The Committee, under the chairmanship of Prof. E.J. Bigwood, of the Faculty of Medicine of the University of Brussels, Chairman of Nutrition and Food Technology Committee of the Belgian FAO National Committee, was composed of experts on nutrition problems from Czechoslovakia, France, Greece, Italy, the Netherlands and Experts of the European Temporary Bureau of FAO in Rome also attended the meeting at which Dr. Latsky, Nutrition Specialist, Div. of Nutrition in Washington acted as Rapporteur.

This group, although far from representative of the countries of Europe was, nevertheless, able to consider the reports on visits to countries made by the following members of the Nutrition Division of FAO :

Dr. Latsky visited Norway, Ireland, United Kingdom, Denmark, Luxembourg. Miss Ritchie visited Poland, Yugoslavia and Switzerland. Miss Tsongas visited Greece and Portugal.

The points with which the Committee was chiefly concerned could be divided into two groups :

1. Fundamental difficulties experienced in the execution of a nutrition programme, and which have to be overcome before putting such programmes into operation.
2. The nutrition problems themselves.

I

Difficulties encountered in the execution of a national nutrition programme

In the attempt to carry out a programme of this nature conforming to the recommendations of previous conferences of FAO on nutrition problems, serious obstacles forthwith arose. It is felt, therefore, that FAO will first have to overcome these difficulties, if its recommendations are not to remain ineffective.

On this point, the Committee held the following views :

(1) Any nutrition programme, to be really effective, requires to be carried out by expert personnel working in close collaboration with the administrative authorities entrusted with its execution.

In effect, the nutritional directives, recommended by FAO to member Governments, excellent as they

may be in themselves, e.g., school meals, milk schemes, nutrition surveys, etc., may remain ineffectual if they are not dealt with by trained nutritional personnel.

Such personnel would be required to modify general recommendations to suit local conditions, to discover the nature of previous habits or customs, and to convince the Government authorities of the true importance of the new measures. The more universally acceptable a purely scientific or technical statement, the greater the need for the economic issues involved to be considered and adjusted in the light of regional or local conditions.

This raises the question of the close collaboration between the National FAO Committees and the competent scientific organizations.

(2) Expert nutritionists are needed because, among other things, nations have not yet fully understood the importance of nutrition. It is essential, therefore, to educate all sections of the population in the basic importance of nutrition.

The relationship between nutrition and mortality, tuberculosis, growth and work output appeared to the Committee as still not being appreciated enough.

(3) The chief problem, therefore, seems to be the lack of personnel trained in nutritional methods.

In this respect, nutrition research appeared to the Committee as being closely linked with the integrity of nutritionists, as it is this factor which attracts young workers and which maintains the high standard.

It was suggested that FAO should give its attention to this urgent problem of providing suitable training.

(4) Another difficulty is the financial provision for this work. FAO could investigate the means available in each country.

For the moment, the Committee noted the three following sources :

— public funds provided by interested Government Departments ;

— institutions disposing of public or private funds for the stimulation and coordination of research ;

— private funds.

(5) The Committee was of the opinion that the funds should be found by the countries and their governments, but that FAO, for its part, has an important role to play, with the assistance of its regional Bureaux, in coordinating results.

This role consists in assisting national action. A general plan of action should be drawn up with the aid of the Nutrition Division of FAO, and through the intermediary of the European FAO Office, adjusted to regional conditions. Lastly, it would be the task of the National Committees to stimulate the execution of this programme in each country.

Among the working methods of FAO, the Committee particularly recommended the appointment of a trained nutritionist instructed to collect, *on the spot*, all information on the investigations in course, and to furnish periodically to nutritionists the results and data which may interest them ; he will also be expected to make a regular report on these investigations.

(6) Other limiting factors are the present set-up of the National Committees and their relationship with nutrition workers.

In some countries, membership of National Committees is limited to administrative authorities, and consequently the need for collaboration with technicians makes itself felt.

In other countries, the National Committees consist of administrative authorities as well as technicians and scientists.

FAO should endeavour to favour in each of those cases efficient collaboration between administrative officials and nutrition experts.

II

Urgent nutrition problems in Europe

1. Among the problems of food supplies which are not subject to seasonal fluctuations, the Committee considered the shortage of animal proteins and fats as being one of the most pressing problems to which the Nutrition Division of FAO should give its attention.

2. In endeavouring to make up these shortages, account must be taken of the immediate necessity for the improvement of the quality of some perishable foods.

3. This Committee examined the reports of the study groups, which met under the auspices of the European Bureau, to deal with: dairying, fruit and vegetable production, European fisheries.

The Committee generally was in great favour of the suggestion that a joint study be made with nutrition experts on the improvement of these products or their conservation.

Committee of Dairy Products.

The Nutrition Committee welcomed the proposal of the Dairy Committee recommending :

" The necessity of forming a joint committee consisting of nutritionists together with representatives of the Committee of Dairy Experts, namely; Dr. Boekel and Prof. Kay ".

The Committee considered :

(*a*) that it is necessary to increase the consumption of fresh milk ;

(*b*) that this increased consumption is closely related to an improvement in the quality and purity of fresh whole milk as it reaches the consumer :

(*c*) that this increase, in some countries, raises the problem of butter production. The production of butter cannot be reduced indiscriminately unless adequate trade agreements between countries can compensate for such a reduction.

(*d*) that high grade margarine, even when enriched with vitamins A and D, cannot serve as a substitute for butter. In the present extent of knowledge of margarine, the Committee felt that it was not possible to conclude that butter could be replaced by margarine even if the latter were equivalent calorifically and as regards vitamin content.

Further studies were recommended in relation to the difference in composition in the fatty acids content of both products.

(*e*) that the necessity of maintaining butter production at an adequate level requires a re-examination of the further uses to which its by-products could be put. Other ways than that which consists in diluting whole milk with skim milk, should be sought, without withholding skim milk from human consumption. In this respect, an increase in the production of certain cheeses should be encouraged, as well as in that of skim milk powder. The latter would be one of the most effective immediate means of improving the dietary conditions of children which cause such anxiety in many countries.

Horticultural Committee.

(*a*) The Committee was of the opinion that it is highly desirable to have a more thorough knowledge of the consumption of vegetables and fruit, the present data available generally being inadequate.

(*b*) In the countries of the North, it should be possible to increase the imports of citrus fruits, especially oranges and lemons. In fact, there are indications of a recent increase in the number of very young children suffering from Barlow disease.

The Committee took due note of the fact that the rural population of the southern countries, exporters of citrus fruit, also requires special attention, since it appears that signs of vitamin C deficiency have been observed among these peoples.

It follows, therefore, that in general it is also necessary to promote the consumption of foods rich in vitamin C locally produced.

Meeting on European Fishery Problems.

The Committee was also of the opinion that it is highly desirable to acquire a more thorough knowledge of the consumption of fresh and salt-water fish.

The assistance of nutrition experts is desirable in order to study the preservation of the nutritive qualities of fish and its derivatives, preliminary condition to an increase in consumption.

4. — The Committee considered that a certain number of other essential questions should be studied by the Nutrition Division of FAO.

(a) *Criteria of malnutrition: nutrition surveys.*

The experience learnt from the 1939-45 war in Europe showed that the classic clinical indications of hypovitaminosis do not generally consist of data valid for estimating the state of nutrition.

The Committee expressed the desire that a group of experts, not exclusively European, be especially entrusted with the re-examination of the problem of malnutrition criteria in Europe.

These experts will propose methods for nutrition surveys, both from the standpoint of food consumption and according to the state of nutrition itself.

This Committee could not lay enough stress on the absolute necessity of undertaking nutrition surveys on a wide scale, particularly in order to plan future programmes in regard to food supplies. In view of the expense of these surveys, this group of experts will have to take into account the present financial situation of the European states, and on which the practical execution of these enquiries depends.

(b) *Revision of the standards of physiological requirements of specific nutrients.*

According to the points of view adopted, the experts of the different countries were led to propose standards which differ fairly appreciably.

While awaiting a theoretical solution of the problem, it is indispensable, from the practical standpoint, to indicate, within a brief period, certain desirable consumption levels expressed in nutrients. An exchange of views between nutrition experts on this question is advisable.

The Committee suggested that FAO set up a committee to tackle this subject.

These experts should be carefully selected from widely differing countries, not exclusively European.

This problem should be studied jointly with those concerning the composition of foods, and calorie coefficients of conversion. The Committee emphasized the urgency of this work, without which international cooperation is difficult.

(c) *Feeding of vulnerable groups.*

The problem of the nutrition of vulnerable groups was recognized by the Committee as being of the highest importance.

The Committee considered that bringing the nutrition of these groups under regulation by official rations is of little effect when there is considerable black market activity.

The question of the relation between nutrition and financial and economic food measures is submitted as a matter of urgency to FAO.

In view of this state of affairs, the problem of school meals also acquires a very special importance.

The Committee agreed that these school supplements should contain the nutrients which are most lacking in family meals. In order to avoid useless expense, a preliminary study of the family diet, therefore, is necessary.

The exchange of views showed that the social aspect of these measures was contemplated very differently in each country. In some countries, the school meal system is satisfactorily applied on a large scale, while in others, this method is considered as contributing towards splitting up the family, and the system of extra food between meals is preferred. In some countries, reaction to the latter has undergone an unexpected evolution in public opinion towards the former system. The Committee was also of the opinion that a thorough study of these questions should be undertaken by FAO.

5. Considering the results that the introduction of new methods of conservation (quick or slow freezing, refrigeration, dessication, etc.), storage and transport may have from the standpoint of the production of foodstuffs and their marketing, considering also the special situation prevailing in European countries, the Committee was of the opinion that it is of greater importance to study the consequences of these methods on the nutritive value of foods.

6. Besides the economic factors responsible for malnutrition in Europe, the want of nutritional education plays an important part in the faulty utilization of the existing products.

This is why the Committee recommended that emphasis should be laid on the importance of this education among the different sections of the people (schools, household instruction, students, doctors, nurses, social workers, public) and that, for this purpose, use should be made of broadcasting, cinemas, pamphlets, tracts, lectures, the press and exhibitions.

* * *

In concluding its report the Committee recorded that all the purely nutritional recommendations which engaged its attention are in agreement with those of FAO and the Standing Advisory Committee.

The Committee, however, emphasized the fact that there is no more urgent question than putting these recommendations into effect in each country. This is the meaning of the suggestions in the first part of this report. They centre on the following idea : when a technical or scientific concept of international application, can be utilized successfully on a national level, a recommendation involving economic, social or psychological factors should be adapted to regional conditions.

AGRICULTURE

The Control of Infestation in Belgium.

Communication by National Committee from G. Watson

At the second session of the FAO Conference held at Copenhagen in September 1946, several recommendations were adopted in connection with the loss of foodstuffs caused by depredations.

This problem has already claimed the attention of the Belgian Government, and an interministerial committee drew up regulations, which came into effect with decrees issued jointly on the 20th and 21st of November and the 30th of December by five Ministers : *i. e.* the Minister of Agriculture, Food, Public Health and Family Affairs, Colonies, and Labour and Social Insurances. These regulations prescribed the measures to be taken to protect cereals and other foodstuffs against depredations and set up a National Committee for their protection.

The first of these decrees requires all owners or consignees of cereals or other foodstuffs, or of products that can be processed into foodstuffs, to take the necessary steps for the immediate destruction of rodents, insects, mildew, or other destructive organisms of whose presence he is aware, or that have been called to his attention as infesting his merchandise.

The same obligation lies with the owners, tenants, or occupiers of premises, silos, boats, or vehicles used to store, contain, or transport these same goods, whether these places be filled with the said goods or empty.

The department of the Ministry of Agriculture for the inspection of milling, malting, and brewery, is instructed to take the measures of control, and for this reason the presence of these causes of depredation must be notified to that department.

These regulations, of course, do not apply to persons owning cereals and foodstuffs exclusively in their capacity of consumers or retailers.

Should the parties concerned fail to use efficient means of destruction adequately, the Minister of Agriculture or his delegates may, after ascertaining the fact, proceed *ex officio* to destroy the causes of depredation at the expense of the responsible parties.

The qualified Minister or his deputies may prescribe special methods for the destruction in

question. In this case, the measures to be taken may be the object of general instructions or of particular ones.

Persons specialized in the use of the products employed for the destruction of depredators may ask to be aggregated to the Ministry of Agriculture. Some twenty firms have made such a request and those who are accepted will be admitted on probation for one year.

The second decree issued by the five above-mentioned Ministers, set up a special body for co-ordinating all efforts towards the attainment of the proposed aim. It is placed under the Ministry of Agriculture and is known as " The National Committee for the Protection of Cereals and Foodstuffs ".

In addition to the officials of the Government Departments concerned, the Committee consists of agents nominated by the cities of Antwerp and Ghent, experts selected for their special knowledge, and specialists in entomology, zoology, phytopathology, and phytopharmacy.

The duties of the new Committee have been laid down as follows :

(*a*) study measures for promoting the protection of cereals, foodstuffs, and products that can yield foods, against all causes of depredation, deterioration, or damage, and draw up any proposals it may consider of use in this connection ;

(*b*) organize, under the Ministry of Agriculture, control of these pests, including preventive measures against all causes of depredation of cereals and foodstuffs ;

(*c*) decide on the use to be made by the qualified services of cereals and foodstuffs that are ascertained to be deteriorated or damaged, in so far as such a decision does not belong to the duties assigned to the Ministry of Food ;

(*d*) report to the Ministry of Agriculture on applications for aggregation made by persons specialized in the use of products employed for control purposes ;

(*e*) give an opinion and make proposals to the Minister of Agriculture relating to the administrative penalties to be taken against persons who refuse or neglect to obey the regulations on this matter ;

(*f*) propose to the Minister of Agriculture adequate measures for regulating the manufacture, trade and sale, and the marketing of means for the control of these destructive agents or of products used for their destruction, and the measures which should be taken for preventing frauds and the adulteration of such products ;

(*g*) ensure, in the exercise of its functions, the respect of the powers pertaining to each of the government departments concerned, and more especially those of the Ministry of Labour and Social Insurance as regards the use of hydrocyanic acid, and matters affecting the health of the workers who handle poisonous products ;

(*h*) co-ordinate all efforts for the control of destructive agents of cereals and foodstuffs.

In conclusion, we should like to point out that the department of inspection has been organized and staff engaged. It includes inspectors who are all university graduates and whose respective districts are fixed in accordance with the importance of the premises they have to inspect: one for each province, in addition to one permanently attached to the City of Antwerp and one to Ghent.

At the Gembloux Station of Entomology two assistants are specially engaged in research work. The reports of the inspectors and samples taken are sent by them to this station, which identifies the insects and notifies the control measures to be used.

We should add that the sale of insecticides, fungicides, herbicides, and other parasiticides must be authorized by a permit delivered by the Ministry of Agriculture on the conditions prescribed in each case. The products whose sale is allowed are registered at the Government Station of Phytopharmacy at Gembloux, and a list of them is published periodically in the *Moniteur*.

The several measures Belgium has taken are :

The establishment of a National Committee for the protection of cereals and foodstuffs ;

Special legislation ;

The appointment of a special service of inspection ;

The approval of insecticides, fungicides, etc.

And they enable us to say that she has complied in full with the recommendations made by the FAO in the matter of the control of infestations.

Agricultural Week in Yangambi

Communication by National Committee

The National Institute for the study of Agronomy in the Belgian Congo (I.N.E.A.C.) has organized, upon the initiative of the Minister for Colonies, Mr. R. Godding, an " Agricultural Week in Yangambi " which took place in the heart of central Africa from 26th February to 5th March 1947.

Owing to the presence of leading personalities of the agronomical world and the importance of the problems studied, this Congress figures among the great international agricultural events.

Conducted tours of the laboratories and the testing grounds of the agricultural research centre of Yangambi, the principal office of the I.N.E.A.C. and the nearby experiment stations, were included in the programme of the " Agricultural Week ".

On the other hand, the numerous reports devoted to problems of colonial agriculture were the object

of a profitable exchange of views. The question of the use of cultural methods in the work of soil preservation was given particular attention. From the opinions of the experts set forth, there emerged certain lines of policy of highest interest for the future trend of colonial agriculture in the work of improving the material and social living conditions of the native populations.

The magnitude of the work has necessitated a division of the study meetings into nine sections: growing methods and soil protection, local agriculture, food-growing, industrial cultivation, technology and growth of fibrous plants, studies on soil and climate, agricultural phytopathology and entomology, agricultural technology, economic and social problems, forestry questions.

Agriculture in Eire

(Communication by National Ccmmittee)

The war brought about a big change in the normal pattern of Irish agriculture, as the country, hitherto a large importer of cereals and concentrates, was thrown back on its own resources for the production of human and animal feedingstuffs. Price inducements and compulsory tillage regulations were resorted to ensure maximum production of food from home sources. Shortages of many commodities, particularly of fertilizers and feedingstuffs, still exist and compulsory tillage regulations are being enforced to ensure that farmers will cultivate a certain proportion of their holdings but at the same time there are some indications of a reversion to more normal conditions of production.

Progress in this direction has been seriously hampered by the abnormally severe weather conditions of the past winter which caused heavy losses in livestock in many districts, prevented attainment of the full tillage quota and considerably delayed sowings of crops. To enable farmers to restore their stocks more rapidly, the Department of Agriculture provided special interest-free loans for the purchase of cattle and sheep. The procedure for the issue of these loans was made as simple as possible, and the facilities, which were the first of their kind given by the State to farmers, were made use of to a considerable extent.

The inadequacy of fertilizer supplies during the war and the intensive tillage programme have now seriously reduced soil fertility in many areas. As a step towards the restoration of this fertility and the improvement of soils generally, the Department of Agriculture recently established, under its control, a Soil Advisory Service which is to engage in research on methods of soil treatment. The extent o the lime deficiency, which has been found to exist in many parts of the country, is a matter of concern and a scheme is at present being formulated under which it is hoped to make available to farmers substantial supplies of ground limestone at a reasonable cost.

Outside the central portion of the country, where concentration is mainly on the rearing of beef cattle, dairying, with its subsidiary industries of pig and poultry keeping, predominates. The dairying districts are also the main source of supply of young stock for the grazing areas. The bulk of the cattle are of the Shorthorn type combining reasonable milk yield with a body conformation compatible with the production of animals suitable for the store and fat cattle trade. The Minister for Agriculture has recently taken steps to constitute an advisory committee, representative of the interests concerned, for the purpose of advising him on matters of livestock policy.

Up to the present, comparatively little organized investigation of a detailed character has been made into the economic aspects of agriculture in this country. The absence of the precise information which would be expected to result from such investigation has, at times, proved a definite handicap in the formulation of details of agricultural policy. Consideration is at present being given to the question of the establishment, within the Department, of a comprehensive costings organization.

A full-time body, was set up in 1945 to consider a number of important problems affecting agriculture. Reports have been submitted by this body on the pig and bacon industries, farm buildings, farm equipment and on other incidental matters. The Committee is at present investigating the question of agricultural education facilities in the country.

Statistics.

The Department of Industry and Commerce is responsible for the compilation of statistics generally, including agricultural statistics. A comprehensive range of data, covering every important aspect of agriculture, is collected regularly and published by that Department.

Acreage, crop and livestock statistics, as well as particulars of sizes of holdings, valuations and numbers engaged in farm work are furnished to the Department in June each year by members of the Gárda Siochána (Police) following personal visits to all farms in the country. At a later stage in the year, estimates of the average produce of crops are obtained from the farmers in each Electoral Division. Statistics of livestock numbers in January, when stocks would be at their lowest, have in recent years also been compiled. If, from time to time, information on special aspects of farming

is needed, provision is made for collection at the June statistical enquiry. The annual agricultural statistics of this country date in almost unbroken record back to 1847.

The material supplied for the annual general statistics is utilized for the compilation of quinquennial reports on the output of agriculture. Only quantities of crops and dairy produce sold off farms or consumed by farm households are taken into account in the calculation of output. The output of livestock is represented by increases in stocks, *i.e.* exported, consumed as meat or added to stocks.

Annual and quarterly price statistics are also published. They comprise particulars of average prices of livestock at fairs, the market prices of certain agricultural products and the retail prices in towns of feedingstuffs, agricultural seeds and fertilizers. Prices of livestock are furnished voluntarily by persons of good standing in the trade while prices of other agricultural produce and of agricultural requirements are supplied weekly by official market reporters who are located in the principal towns throughout the country.

United Kingdom
British Agriculture's Charter

(Communication by National Committee)

The Agriculture Bill at present before the British Parliament is designed to give legislative effect to the Government's agricultural policy. Its main features are the provision of guaranteed prices (announced well in advance), and assured markets for the major farm commodities ; power to ensure the full and efficient use of all agricultural land or land which ought to be used for agriculture ; power to ensure reasonable standards of husbandry and estate management ; the establishment of a more satisfactory basis between landlord and tenant and, in particular, the provision of greater security of tenure for tenant farmers ; and finally a smallholdings policy designed to provide a better career for agricultural workers on the land.

The Government's objective is to promote a stable and efficient agricultural industry capable of the optimum production of food at minimum prices consistently with proper remuneration and living conditions for farmers and workers in agriculture, and an adequate return on capital invested. Although the major part of the United Kingdom population lives and works in the urban areas, nevertheless agriculture is still one of the nation's biggest industries. It provides employment for approximately one and a quarter million people, while out of a total of 60 million acres, some 48 million acres of land are devoted to agricultural use. Unlike many other countries, land is a scarc commodity in the United Kingdom and the Government considers it essential that every acre of land should be put to the fullest productive use in the interests of the national economy, for Britain cannot afford the luxury of idle or ill-used acres.

The twin pillars of the Government's agricultural policy are stability and efficiency. Stability is to be provided through guaranteed prices and assured markets. Efficiency is to be encouraged through the provision of technical advice to farmers and landowners and, where necessary, by the enforcement of reasonable standards of good husbandry and good estate management. Where land cannot be fully used for agricultural purposes in private hands the State will have power to step in and buy the land so as to ensure its full productive use. This policy will be operated through local Committees in each county, the majority of whose members will consist of farmers, agricultural workers and landowners. This means that the system of County War Agricultural Executive Committees which has been so successful in wartime will become a permanent feature of British agriculture. In addition, Agricultural Land Tribunals will be set up to hear appeals and an Agricultural Land Commission constituted to manage land taken over by the State.

In order to enable the tenant farmer to plan ahead, greater security of tenure is conferred upon him and he cannot be given a notice to quit without the Minister's consent. In addition, further rights and obligations are conferred upon landlords and tenants for the purpose of increasing agricultural efficiency.

The main principles of the Bill have been generally welcomed by all sections of the industry. The two main conceptions of stability and efficiency have long been recognized as those fundamental to the future prosperity of British agriculture. The Bill does not provide for land nationalization and farming will continue to be a free enterprise. Its aim is rather to ensure that the limited area of agricultural land will make the most efficient contribution to the food supply of the United Kingdom. It is expected to come into operation (as an Act of Parliament) early in 1948.

The National Agricultural Advisory Service

(Communication by National Committee)

The National Agricultural Advisory Service was formally set up on 1st October, 1946. The function of the N.A.A.S. is to provide technical advice and instruction free of charge to those engaged in agriculture and horticulture in England and Wales ; and

the new Service has taken over responsibility for general advisory work from Local Education Authorities, and for specialist advisory work (except agricultural economics) from Universities and Agricultural Colleges.

The advantages accruing from the welding of the separate advisory services into a single national service are that :

(1) a national organization will be able completely to coordinate specialist and general advisory work and gradually level up the marked differences which have existed between one county and another.

(2) it will be possible to provide more specialists than have been available in the past, in particular, to extend the specialist service into the fields of agricultural husbandry, e. g., animal feeding and grassland management, and as qualified officers become available into new fields such as farm buildings.

(3) opportunity will be provided for advisory officers to experiment with and try out new methods by means of a chain of experimental husbandry farms and horticultural stations, representative of the several farming types and conditions obtaining in this country.

(4) improved salaries and wider prospects of promotion should induce first class young men and women to make advisory work their career.

The war years have shown that an adequate advisory service to farmers and growers is indispensable to the attainment of maximum food production, and the value for such an advisory service is nowhere appreciated more fully than by farmers and growers themselves. The food crisis will pass, but a comprehensive advisory service will become more, and not less, essential as being one of the chief means by which the efficiency of the agricultural and horticultural industries can be continuously raised to higher levels through the application to farming practice of the newest discoveries and the latest findings of research workers.

The N.A.A.S. is organized in eight provinces and the staffing of each province will include, in addition to general advisory officers, science specialists on Entomology, Plant Diseases, Soil Chemistry, Animal Nutrition, Bacteriology; husbandry specialists on Farm Crops, Grassland, Livestock, Milk Production, Farm Machinery, Farm Buildings, Poultry ; and horticultural specialists on Glasshouse Crops, Fruit, Vegetables.

One of the important functions of the N.A.A.S. will be to test the findings of research workers under the wide variety of farming conditions that obtain, with the aim of assisting the speedy practical application of the results of research. For this purpose it is proposed to set up a series of experimental husbandry farm and horticultural stations throughout the country.

Meeting of Slavonic Agricultural Experts in Czechoslovakia

The Czechoslovak Institute for International Co-operation in Agriculture and Forestry held a conference of Slavonic agricultural experts in Mariánské Lázně from 8th-13th June at which Bulgarian, Czechoslovak, Polish, Russian and Yugoslav delegates took part. After setting up 6 Committees, the Conference dealt with the agricultural approach to organization and planning, economy, scientific research, schooling and documentation and unanimously adopted the final resolution at its plenary session on June 13th.

The delegates pledged the support of their respective Governments and agricultural organizations to the Agriculture and Forestry Exhibition to be held in Prague in 1948 simultaneously with the pan-Slavonic Conference, and resolved to acquaint their Governments with the activities of the Czechoslovak Institute for International Co-operation in Agriculture and Forestry.

The Conference expressed the hope that a close co-operation between Slavonic countries would be maintained with the exchange of experiences and suggested some practical forms for its realization.

The Food and Agriculture Organization of the United Nations welcomes this serious effort to link up the agricultural experts and organizations of the Slavonic countries, with the firm hope that it will create goodwill and contribute towards better co-operation between all nations of the world in this field, which practically constitutes a synthesis of FAO's aims.

Meeting of Experts on Animal Production

When the experts on animal production from different European nations met for the first time after the war on April 23rd, 1947, at the invitation of the Temporary European Bureau of FAO in Rome, it was only natural that their very first consideration should be the rehabilitation of livestock in Europe.

In fact the number of domestic animals of various European nations has suffered a considerable decrease during and after this war.

The present situation of animal production in Europe has completely changed, as compared to what it was before the war, (losses suffered during the war, liquidation of stock breeds following land changes, etc.) facts which have a deep bearing on the number of livestock and breed composition.

Changes were also brought about through the introduction in various parts of Europe of breeding animals, until then unknown, imported during the war by the German occupation authorities and after the war by UNRRA.

Any action to be taken on the international plane in view of rehabilitating European stockbreeding, requires a definite and detailed knowledge of the situation and particularly of important data from the zootechnical point of view.

Although the exchange of specially selected animals, particularly sires, between breeders of various countries is of primary importance for breeding purposes, there is hardly any data available concerning the extent of production or the availabilities and requirements of producers in the matter of breeding animals.

So as to remedy this deficiency the Meeting of Experts advised the Temporary European Bureau of FAO to begin an inquiry on this subject and also to obtain information as to what available breeding cattle exists or is needed in European countries. The inquiry now being undertaken will furnish precious information on the subject.

The experts also recommended to the National Committees that:

(1) in importing livestock preference should be given to animals pertaining to breeds found to become acclimatized easily and without risk after a sufficiently long test, carried out in the country itself or at least under zootechnical and economic conditions similar to those of the country in question;

(2) the responsible authorities should be reminded that one of the best means of promoting the exchange of breeding animals, indispensable for building up the stocks of devastated countries, consists in facilitating the transfer of foreign currency required for those purchases, and in simplifying as much as possible the formalities connected with importation.

The Meeting of Experts also took into consideration the technical means for improving breeds. It was recognized that registry books on farm animals were the most important instruments for methodical and scientific selection and that an international standardization of the methods for keeping and operating these books would be highly desirable.

For the registry books to be really useful and render efficient service, they ought to contain every useful and interesting information, from the zootechnical point of view. It is not enough to register only the names of the animals, their pedigree and progeny, but notes on the yield of the animals, their fertility, etc., should also be added.

The Meeting declared that before the final registration of the animal in the registers, it is essential that its conformation be approved and data on its economic yield established.

Unfortunately methods for making yield tests have not yet been sufficiently perfected (except for milk recording) to enable the desired standardization of registry books, on an international plane, to be put into operation. Further research will help to attain this aim. The question of milk recording is different. Milk produce is relatively easy to measure and is now recorded nearly everywhere where dairy cattle breeding is practised on a scientific basis.

A standardization of methods for keeping and operating dairy cattle registry books has been attempted and an international Convention was signed in Rome on October 14th, 1936, to that effect.

The Meeting of Experts also examined this Convention. It was found that although the Convention is still in force, it is not as effective as it should be, because many States who had signed it omitted to ratify it in the course of time. The experts moreover found that the original text of the Convention is partly out of date and is therefore subject to modifications. It should be completed and generally brought up to date to become more efficient.

A detailed discussion stressed the importance of the following for dairy cattle registry books: approval of conformation or milk-butterfat qualities before final registration of these animals in the registers; the number of lactations in proportion to the age of the animal; information of all sorts on the yields of cows and of the female progeny of bulls; information on the fertility of registered cows and the eventual establishment of a special fertility mark. The experts asked the Temporary European Bureau of FAO to submit the problem of the Convention to the National Committees, so that they will be able to judge by what means an efficient agreement in this field could be reached.

In the meanwhile, the experts requested the Temporary Bureau of FAO to collect all possible information on methods of milk and butterfat recording in different European countries. This inquiry is proceeding and according to its results it will be possible to judge to what extent a standardization of these methods is possible and practicable.

The Committee of Experts also examined the technical possibilities for encouraging the reconstruction of European livestock studs. Amongst new methods they particularly examined that of artificial insemination.

Without going into the technical details of this method, they particularly examined the zootechnical result of this method, and its importance in stock breeding. They stated that artificial insemination has become an important factor in animal breeding and more especially in cattle breeding, that it has attracted much interest, even in those

countries where it had not been introduced on a large scale and that it may have a very great influence on animal breeding in Europe. The Temporary Europe n Bureau of FAO was requested to collect all useful information on the use of this method in European member countries of FAO based on actual facts and on the opinion which is being formed on this problem in different countries.

Study Group on Horticultural Matters

In conformity with the resolutions passed by the European National Committees of FAO at the meeting held in Rome in March 1947, the Temporary European Bureau of FAO invited a small group of experts to form a Study Group to examine some matters relating to horticulture. This group met at The Hague from May 16 to 17, 1947, with Mr. A. W. van den Plassche, Director of the Division of Horticulture of the Ministry of Agriculture, Fisheries and Food of Holland, in the chair.

As no previous attempts to secure continuous international collaboration in horticulture had had lasting success owing to the lack of a permanent organization, the Group expressed the wish that FAO should act in this capacity and that a specialist in horticulture be attached to Washington Headquarters and to the Temporary European Bureau.

To avoid extending the programme unduly, the Group decided to limit the field of study to a few important problems relating to fruits and vegetables. One of the most urgent questions in this field is that of the available supplies of fresh vegetables and fruit in the European exporting countries. Germany has ceased to be an importer. Some countries which prior to war imported fruit and vegetables have been led to grow them themselves, as a result of the interruption of communications with their usual sources of supply, and also on account of foreign exchange difficulties. Thus the marketing of fruit and vegetables in a certain number of European countries has become difficult.

The Group was therefore of the opinion that the European Bureau of FAO should undertake a study of production, consumption and available supplies of fruit and vegetables in Europe. Only by increasing consumption will it indeed be possible to overcome present difficulties. Unless it be possible to raise the consumption of fruit and vegetables, the world will return to a policy of limitations similar to that of the pre-war years. A more marked increase in consumption would be advantageous both to the producing and to the consuming countries.

The Group however could not furnish more detailed information as little is yet available on the situation and possibilities of the several countries. It is regrettable that most consumers fail to appreciate the nutritive value of fruit and vegetables.

The Group was of the opinion that a great gap would be filled if FAO were to publish a report on the part played by fruit and vegetables in human nutrition, which could serve as a basis for the study of means for increasing consumption, thus avoiding seasonal or regular excess production. Such a study might be made by the European Bureau in collaboration with the National Committees.

The first thing to be done would be to estimate the present production and consumption of the several European countries. The nutrition experts of the European Bureau should then, in collaboration with those of other countries, try to determine the minimum quantities of fruit and vegetables that should enter into national dietary. Thirdly, an enquiry should be made on shortages or surpluses, with a view to finding the means for avoiding them. Lastly, the study undertaken by FAO should consider the possibility of improving consumption by standardization, better marketing, education, and conservation. While studying this last point, account should be taken of the best means of conservation, *i. e.* of those which preserve the nutritive qualities of the vegetables.

To enable producers and consumers to receive reliable information on crop prospects, the Group was of the opinion that FAO should publish periodical reports on the European crops, and should assemble all useful information on the control of plant diseases and on scientific improvement in horticulture, which should also be published periodically.

It is a well-known fact that growers of fruit and vegetables are often the smallest consumers of such foods. Therefore those persons might easily improve their health by consuming more of the crops they grow. For this reason the Group was of the opinion that it is particularly desirable to take certain measures (publicity, education, etc.) to induce the growers to consume more fruit and vegetables.

FAO Activity in Regard to Agricultural Engineering in Europe

Already before the war European agriculture had been affected by the advance in agricultural production of overseas countries. Production costs had diminished appreciably in these countries owing to the use of new powerful machinery (tractors, harvester-threshers), which could not be employed in

Europe because of the limited size of the majority of small and medium family farms, which represent approximately 80 per cent. of the cultivated area. Unfortunately, most of these farms are largely split up and disjointed, frequently making rational farming with machinery impossible.

Long before the war, European manufacturers of farm machinery had endeavoured to produce machines suitable for small holdings. Unfortunately technical and economic motives often hindered the manufacture of small scale models. Recourse was then taken to the cooperative system for using machines and, in some cases, fields belonging to different proprietors were grouped together for joint cultivation.

All these problems, far from disappearing after the last war, have, on the contrary, become still more serious in consequence of the many machines destroyed and the poor condition of the remainder owing to excessive use.

Fresh difficulties due to the present situation could be eliminated if the various countries of Europe acted with greater solidarity in joint reconstruction schemes. FAO is destined to play an active part in this respect, and in April last, convened a meeting of experts on agricultural machinery from different countries, in order to direct better their activity towards the solution of problems which are pressing for Europe.

It was recognized at this meeting that mechanization of the small and medium holding necessitated new types of tractors in order to replace the horse in all farm operations, and made in such a way that the implements could be attached direct to the tractor and not pulled, in order to be operated more effectively on small plots.

Despite this adaptation of the tractor to small scale farming conditions, it is essential for regrouping to be effected by consolidation of subdivided fields and small isolated plots. Mechanization cannot be attempted otherwise, since with minimum sized holdings it is not an economic proposition. A report on land fragmentation in the different countries of Europe was drafted by the FAO Office, and the general measures which could eventually be taken into consideration with a view to speedy consolidation, can now be foreseen.

Many other questions concerning mechanization have been examined during the last few months by the European Office of FAO ; for instance, the question of standardization, essential for the mass production of cheaper machines. In order to facilitate an inter-European direction in this field, a " European Secretariat for the standardization of Farm Nachinery " was set up by the international Committee of agricultural engineering in Gembloux. This organization works in close collaboration with FAO, and the solution of some problems regarding agricultural machinery is entrusted to either of these organizations.

Machinery manufactured in Europe must be guided by machinery requirements and manufacturing possibilities. An enquiry is now being carried out on the question by the European FAO Office, in collaboration with Headquarters in Washington, which should supply the basis for a joint plan of action.

The want of closer collaboration in the different countries, and between one country and another, impedes the coordination of reconstruction trends on an inter-European plan, as well as the exchange of the results of experiments effected in various countries. FAO lends its full support in order that national centres for liaison between public authorities, farmers and the manufacturers of farm machinery may be set up in each country ; centres for which collaboration on a European level and with the international Committee of agricultural engineering will be assured by a permanent Secretariat of FAO in Europe.

The study of other questions relative to agricultural engineering with a view to practical action, has been contemplated by FAO, for example, farm buildings, which are of great importance for easing work inside the farm, especially in facilitating the tasks of the farmer's wife.

In the latter respect, the use of electricity is destined to play an increasingly important part. It is the intention of FAO to study the extent of electrification in the country districts of the various countries of Europe and its influence on the consolidation of small holdings.

A question of great importance for European agriculture which the FAO Office intends to deal with thoroughly, is that concerning the mechanization and organization of the production and conservation of green forage. The problem of stockfeeding, previously depending in some countries on heavy imports of concentrates, rich in proteins, will now have to be solved through the domestic sources of European countries. At present these local resources are not as fully utilized as they could be. The improvement, increase and better conservation of green foodstuffs by mechanical means could, in the near future, become the pivot of the agricultural structure of Europe. This is why the European Office will treat all aspects of these questions.

The use of Gammexane in Locust Control

Gammexane (Hexachlorocyclohexane, $C_6 H_6 Cl_6$) is a product manufactured by the British "Imperial Chemical Industries ". This product, which

was at first included in the list of war secrets, has ranked since the end of the war as a first class insecticide, and one of particular value for the control of locusts. It was used for the first time with excellent results in North Africa and Persia. This encouraged Prof. G. B. Uvarov, Director of the Anti-Locust Centre of London, to make use of it, in collaboration with the Italian Ministry of Agriculture and UNRRA, to stop the invasion of Moroccan locusts which in 1946 threatened to destroy the Sardinian crops. Thanks to UNRRA, the requisite quantities of gammexane arrived from England to Sardinia by airplane just at the time when the lack of sodium arsenite was a cause of serious difficulties.

Gammexane is used in the anti-locust campaign for poisonous baits. It is mixed, preferably with bran, and is equally if not more efficient than sodium arsenite, which is generally used. But while the use of the latter may be dangerous, gammexane has the great advantage of being harmless to men, domestic animals, and plants, while its action on locusts of all ages, when spread as a powder or used as a spray, is very effective. During the tests made, the insects brought into contact with baits poisoned with gammexane died even before eating them, which leads to the belief that this substance acts on the nervous system of the insects.

It is important to know that gammexane should not be kept in sacks, but in metal drums ; only when thus stored does it preserve its efficiency ; if stored otherwise the volatile ingredients evaporate.

Gammexane however, like sodium fluosilicate, has the drawback of being insoluble in water. But this counts for little when offset by the great advantages offered by the new means of control as compared to the old ones.

A certain reluctance of the farmers to use it still has to be overcome as they doubt that a product which is harmless to cattle can kill locusts. Arsenic has a bad reputation when used for such a purpose as a poison ; indeed, in the single province of Sassari the use of arsenical sprays has cost the life of more than 500 head of cattle. The result is that the rural population divides in two sections, on the one hand the farmers, anxious to preserve their crops, who want the locusts to be destroyed, and on the other the owners of herds who are unaffected by this matter or even hostile to control measures as they fear that the means employed will poison the grazing lands. Gammexane makes it possible to reconcile the wishes of both parties, as the fact that it is harmless to livestock makes its use particularly advisable in those parts of the country whose economy is based on livestock, and it is expected that the use of this insecticide will spread very rapidly in Sardinia.

The same holds good for Corsica. It seems that henceforth the baits will be prepared exclusively with bran mixed with gammexane. It has therefore been decided to make available to the farmers a dry mixture of bran and gammexane, already prepared, so as to avoid the danger that part of the product intended for locust control should be used for cattle feed. It is hoped that the unification of control methods will thus be secured.

It has also been decided that in the 1947 campaign in Greece sodium arsenite, used on previous occasions, be replaced by gammexane. It is estimated that 100 tons of gammexane at 20 % will be required for the anti-locust campaign of the current year.

It would seem that all the quantities of gammexane required for use in Europe will be available. The output capacity of the Imperial Chemical Industries is in this respect reassuring. Similar preparations are moreover being produced in the countries interested in locust control. The " Rumianca Co." of Turin has placed on the market " Toxin ", the " SIPCAM Co." of Milan " Tiogamma ", two products which in experimental tests have proved no less effective than the British gammexane. In Spain the " Insecticidas condor C" sells, under the trade name of " Gelon ", a product containing 15 per cent. of the active principle of gammexane. Other firms are also making similar products.

Now that a means of control is available which is harmless to men and animals, the idea of spreading it by scattering from airplanes has again been taken up, an idea which had to be abandoned, at least in cultivated and inhabited areas, owing to the danger of poisoning connected with the means formerly employed We may hope for fine results in the future from this new mode of procedure.

Activities of the Advisory Service

The activities of UNRRA's Field Services Branch have now become part of the FAO programme in Europe. The agreement between the two organizations, which was signed in Washington last February, transferred to FAO the sum of $ 600,000 to pay for the salaries and expenses of the personnel involved. No expenditure of FAO funds is therefore necessary. A small administrative staff has been transferred from UNRRA to Headquarters in Washington, while Mr. Hugh Calkins is in charge of European services in the Rome office. On-the-spot representatives — liaison officers between H. Q. and the National Committees — have been appointed for Poland, Czechoslovakia, Austria and Italy, and similar appointments are being made in a few other countries following the end of UNRRA activities on June 30th.

The advisory services are furnished on specific request from the countries that have been receiving aid from UNRRA. The National FAO Committees, in consultation with their Governments, submit to HQ a note of the technical advice they most need. As the requests are received, HQ arranges to recruit the services of the most eminent specialist available, who is sent into the country on a short-term advisory visit.

The subjects of most general interest, to judge from the requests received so far, are : livestock improvement, veterinary practices, plant breeding, farm machinery, food preservation, and the organization of experiment stations. Some of the more outstanding experts who were appointed as consultants last year under UNRRA auspices, have been specifically asked for by the Governments again this year, which is a tribute to the value of their work

An alternative or complementary means of diffusing up-to-date agricultural practices, the latest results of research (which in effect is the object of the Field Services Division) is being sponsored this year in the form of Instruction Courses, to which countries are asked to send delegates. The three schools planned so far deal with hybrid corn growing, artificial insemination, and the production of veterinary serums and vaccines. A report on these schools will appear in a later edition of " Food and Agriculture in Europe ".

ECONOMICS AND MARKETS

Agricultural Accountancy

The Temporary FAO Bureau in Rome has been instructed by the representatives of the FAO European National Committees to deal with the problem of farm accountancy. This question was examined at the meeting of experts on farm accountancy held in Rome on June 16-18, and proposals were drawn up.

Agricultural economic research must be based on the activity of offices and organizations engaged in this study. The results of their highly important work serve to develop the economic education of the farmers through advisory services. The greatly desired increase in agricultural production cannot be obtained without the farmers acquiring some technical and economic rudiments. For a sound agrarian policy to be established, it has to be completely adapted to the natural and economic conditions of each country, in order to attain the main objective, namely, an improved standard of living. It is also a question of price regulations and of utilizing them for the direction of agricultural production. This objective can be reached through farm accountancy. Another aim, the importance of which cannot be disregarded, is the development of economics and relative research work.

The work accomplished by the International Institute of Agriculture since 1929 should be continued by FAO and improved. The crop reports for 1946 or 1946-47 could be taken as a starting point. In order to enable a comparison of statistical documentation to be obtained from European countries differing appreciably one from the other, however, it is important to determine the data and definitions, to standardize as far as possible the methods employed, and to establish close collaboration between these countries and the FAO European Bureau.

For the true meaning of the figures to be understood, they should be accompanied by an explanation of the national systems and the national conception of farm accountancy, and if they are to be appraised, an economic commentary should be drawn up specifying the meaning of the publication, the importance of the comparisons which can be made, and which will explain the agricultural situation of different countries, and, in particular, national agricultural conditions and the progress attained in European agriculture.

As the question of agricultural prices is one of the most important, the National Committees will be requested to apply to the competent institutions, and particularly to the accountancy offices, in order that work in this field may be carried out in liaison with investigations on profitability. The scheme of work will include investigations on agricultural prices and on means of production, on price indices, purchasing power, and differences between agricultural and industrial prices. Account will taken of the consumption of the rural population, in value and in quantity, of the farm produce, on the basis of farm accounts, and, if possible, also on family budgets.

Accountancy results should be assembled in a form immediately useful for guiding the trend of agricultural production, and should be drawn up in a sufficiently accurate and representative form to guarantee their reliability.

The 1950 World Census of Agriculture

HUNGARY — Mr. ELEKES, President of the Statistical Office of Hungary, stated that Hungary had intended taking a census of the agricultural holdings in 1948 but that it might be postponed until 1949 in order to conform with the plan for the World Census of Agriculture prepared by FAO. A draft of the questionnaire to be used will be sent to FAO within a few months.

ITALY — The Central Statistical Institute of the Italian Republic has already completed a series of preliminary studies for an agricultural census in their country. A tentative questionnaire, based on suggestions made by an *ad hoc* commission, presided by Mr. BARBERI, Director General of the Institute, has been prepared and sent to our Organization.

PORTUGAL — Mr. TOVAR, Director of the National Institute for Statistics of Portugal, has just informed us that his government has established a commission entrusted with studying a series of censuses to be taken in 1950, including a general census of agriculture. The commission has already started its work. As far as agriculture is concerned, the preliminary programme of the 1950 World Census of Agriculture prepared by FAO will serve as a basis.

ROUMANIA — Mr. MANUILA, Director General of the Central Statistical Institute of Roumania, advised us in a letter that a committee of experts has been appointed in his country to study FAO's proposals for the agricultural census. As soon as the committee's work is finished, our Organization will be informed of its findings.

FISHERIES

Meeting of Experts in Rome for the discussion of Fishery problems

Members of the Study Group submitted written statements showing the position of the fisheries in their countries as regards production and consumption. These summaries afforded much valuable material for the FAO European Regional Office. A statistical summary was also prepared from information supplied by the members of the Study Group (see Fig. II). Eire, Belgium, Spain, Sweden and Germany were not represented at the meeting, consequently the statistical table is incomplete. To it must be added the following information obtained from other sources :

Eire :	Estimated quantity of fish available for export in 1948	7,000 tons
	Estimated quantity of fish required for import in 1948	250 tons
Belgium :	Estimated quantity of fish available for export in 1948.	48,000 tons
	Estimated quantity of fish required for import in 1948	68,000 tons
Spain :	Estimated production in 1948	600,000 tons
	Estimated consumption in 1948	Quantity unknown but likely to be in excess of the production figure.
Sweden :	Estimated quantity of fish available for export in 1948.	80,000 tons
	Estimated import requirements for 1948 . .	34,500 tons
Germany :	Estimated production in 1948.	161,000 tons
	Estimated consumption	221,000 tons

In addition to the above, Newfoundland expects to have 21,000 tons of dried salt codfish available for export to European countries in 1948.

Certain members of the Study Group expressed the opinion that the production of cod fishery would fall in 1948. On the other hand, it was pointed out by other members that herring fishery was not fully exploited by certain countries, and was capable of considerable expansion which would more than offset any reduction in the supplies of cod.

From the discussions on the problems affecting the European fishing industry it became abundantly clear that FAO could not hope, with the facilities at its disposal, effectively to solve all of these problems in the immediate future, and the Study Group therefore came to the conclusion that FAO should, in the first instance, concentrate its energies upon the more immediate and

pressing problems which relate principally to distribution and marketing.

The need for further study of the stocks of fish in the sea and the effect of commercial fishing upon these stocks was fully recognized by the Study Group, who were anxious that close liaison should be maintained between FAO and international bodies such as the International Council for the Exploration of the Sea, so that scientific work might be carried out in the most efficient manner and without duplication. In this connexion the proposal for the establishment by Convention of Regional Councils for the study of the sea was noted and certain members of the Study Group expressed the hope that the area coming within the jurisdiction of the International Council for the Exploration of the Sea would be satisfactorily settled by agreement between the nations concerned and the Council. The importance of a Fish Regional Council for the Mediterranean Sea and contiguous waters was stressed and certain members felt that a similar Council should be set up for the Black Sea area. It was, however, pointed out that most of the nations in this area were not members of FAO and, until they decided to take up membership of that body, they could not take any action in the matter.

The Study Group showed a lively concern regarding the production of fish of the highest quality and the maintenance of this quality throughout the chain of distribution to the consumer. It was felt that there were many deficiencies in the distributive system and because of these, efforts of the producing countries to maintain or raise the quality of their products might be defeated. The importance of quick freezing and the storage and distribution of frozen fish were fully recognized and the Study Group gave highest priority to the need for obtaining as quickly as possible complete information about the facilities in Europe for handling frozen fish. It was recommended that FAO should make a survey of these facilities and communicate the results to member Governments.

It was pointed out that the technical development of cold storage and up-to-date methods for maintaining a low temperature of frozen fish throughout distribution were of special importance in developing the market for frozen fish in Europe, and it was felt that the recommendations of the FAO Preparatory Commission on World Food Proposals, with particular reference to the provision for financing facilities in connexion with warehousing, cold storage and transport for perishable products, would, if adopted, be particularly helpful in the consuming countries and would enable them to set up necessary facilities for handling frozen fish.

The discussion turned on the following points:

(1) the need for improvement in the quality of fish and the maintenance of the highest possible quality standards;

(2) the need for more speedy handling of fish in the production countries;

(3) the need for improved methods of packing fish;

(4) the need for speeding up transport in all kinds of fish and particularly frozen fish, with special attention to the avoidance of transport delays at trans-shipment points en route;

(5) the creation of proper marketing organizations within the consumer countries;

(6) and the stimulation of consumer demands.

TABLE I. — *Production of Fish* (*)
(Estimated landed weight in 000 metric tons).

Country	1947			1948		
	Herring	Other	Total	Herring	Other	Total
Denmark	30	180	210	30	190	220
France	50	300	350	50	300	350
Greece	—	35	35	—	40	40
Holland	117[1]	86	203	117[1]	94	211
Iceland	315	270	585	315	300	615
Italy	—	160	160	—	160	160
Norway	750[1]	350	1,100	650[1]	300	950
Poland	9	66	75	12	86	98
Portugal	100[1]	155	255	100[1]	155	255
United Kingdom	255	845	1,100	280	875[1]	1,155
Belgium[2]	50	54	104	50	60	110[3]

(*) Excludes shell fish.
1 Includes sprats, sardines and pilchards.
2 Since the Study Group met, we have received data concerning Fish Production.
3 Estimated landed weight in 000 metric tons; without sprats, shell-fish and molluscs.

TABLE II. — *Fish Consumption* (*)
(Estimated weight as landed in 000 metric tons).

Country	1947			1948			
	Herring	Other	Total	Herring	Other	Total	Population in 000
Denmark	25	25	50	25	25	50	3,750
France	50	300	350	50	300	350	35,000
Greece	10	55	65	10	55	65	8,000
Holland	44[1]	56	100	42[1]	50	92	10,000
Iceland	10	5	15	10	5	15	145
Italy	—	200	200	—	200	—	46,000
Norway	30[1]	90	120	25[1]	75	100	3,000
Poland	68	54	122	72	80	152	22,000
Portugal	40[1]	185	225	40[1]	185	225	7,500
United Kingdom[2]	185	1,020	1,205	200	1,100	1,300	46,500
Belgium[3]	35	50	85	35	51	86	—

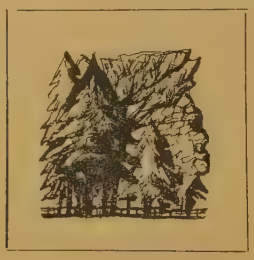
(*) Includes sprats, sardines, pilchards.
1 Production figures inserted in absence of indication of probable imports.
2 Exclude; shell fish.
3 Since the Study Group met, we have received data concerning fish consumption.

The Study Group took note of various methods adopted for stimulating the consumption of fish, and it was agreed that FAO should collect full information concerning successful publicity efforts and furnish particulars of these to the various National Committees. Certain difficulties which were likely to arise in the marketing of salt herrings were noted and the Study Group were particularly anxious that other methods of utilizing herrings should be developed to the greatest possible extent. In view of the world shortage of oils and fats the Group considered that the need for expansion in herring oil and meal production should be brought prominently to the notice of National Committees in the producing countries.

A proposal to consider setting up an international marketing scheme was discussed and it was agreed that FAO should examine this question and present a report on the subject for discussion at a European Fishery Conference. It was not intended that such a scheme should attempt to do anything which would properly be within the terms of reference of ITO or any other body, but it was felt that there were many things in connexion with the marketing of fish which would not otherwise be provided for if FAO did not attempt to bring the countries concerned together in an effort to find a solution.

The financial difficulties experienced in certain countries which were restricting their ability to obtain supplies of fish were mentioned, but the Study Group felt that this was part of a much wider question which applied equally to other foods, and would have to be dealt with on a general basis.

F O R E S T S



Italy's Need for Reforestation Challenges Civilization

There is much evidence to support the belief that depletion of forest resources has retarded the general rise in productivity of Italian crop lands attained through progress in scientific agriculture. Although there were remarkable advances in productivity of the better farms prior to the war, which resulted in an overall increase in production of some of the more important crops, production in large areas of poor mountain lands, particularly in central and southern Italy, has been on the decline or has been maintained only through an inordinate expenditure of labor and resources. Yet, in spite of this great and too-often unsuccessful effort to maintain productivity in poorer lands, there has continued to be an ever expanding cultivation of steep, stony, sterile and arid soils.

This trend towards the increasingly difficult cultivation of poor lands has been due to a very dense and constantly increasing population which creates a demand for ever larger quantities of food, fibre, fuel and wood. This population pressure upon Italian land resources has produced a very critical maladjustment in land use, which it is very difficult to correct as long as the intense use of the land persists. Ordinary methods of land improvement give only temporary respite, which enables further intensification of the same type of use with temporarily increased production of human needs, but leading only to further long-term exploitation of the land resource.

One of the chief reasons why the intensive use of steep, stony, sterile and arid soils cannot continue indefinitely in the Italian mountain areas is the serious disturbance of the normal hydrological relationship between forests, grazing lands and cultivated areas. While the owners of small mountain properties frequently have not been informed of the most recent scientific developments in respect of methods for conserving water, soil and organic resources, there has been an increasing application of many of the tried and tested methods for temporary conservation of such resources. Thus, the mountain people have changed the appearance of their countryside through great labor and painstaking effort.

On lands too steep to retain the soil when cultivated, they have erected stone walls to support the narrow terraces of crop land ; on land too compact and sterile to support plant life, they have resorted to tremendously deep ploughing to loosen the soil and to permit the penetration of roots to be fed by chemical fertilizers ; on land too dry to permit satisfactory plant growth they have brought water by means of lengthy masonry aqueducts ; and on lands too stony to permit cultivation or grazing of livestock they have performed stupendous feats of stone removal or transportation of the soil from bottomlands or deep pockets in the earth to cover the stones. This resort to physical methods of land development presses hard upon the utmost exploitation of the land area, gaining a few decades or maybe a century of hard-earned use at the expense of the ultimate complete loss of areas from use to mankind.

This gradual destruction of the land itself is generally not recognized by the people who are exerting such great effort to earn a living from the soil, and the Italian technician or public administrator is prone to argue that nothing very satisfactory can be done about it because of the tremendous pressure of social problems and the need for maintaining human life. Perhaps this may be true if Italy must be restricted to her rugged peninsula and adjacent islands, without hope of outside relief through emigration or the expansion of imports to supply many of the needs. However, with world collaboration and the interest of civilization in Italian progress and welfare, there may be an opportunity for a more effective approach to permanent rehabilitation of the Italian mountain areas.

The trouble with the efforts of the past has been that it was necessary to approach the problem of adjusting land use only piecemeal while the intense use of the land continued, rather than through the broader approach of complete planning of revised use of entire districts. After centuries of increasingly severe use and abuse of mountain areas, there are many sections of Italy where the remaining soil is still being intensively used after all or nearly all of the forests have been removed from the mountains, practically all of the organic material has been lost from the soil except in deep valleys or small plateaus, and much of the soil itself has eroded away from the mountain tops and more prominent lateral ridges. In such areas, the wet winter season and the dry summer season present contrasting problems in excess run-off of water from the steep slopes, followed by extreme drought in the growing season when all plant life withers and dies. The first of these conditions is characterized by the raging waters which rush from the mountains carrying soil, gravel and stones on to cultivated areas at lower elevations, which tear hungrily at stream banks and exposed farmland, and which surge in incontrollable volume on to the coastal planes below, where floods are harmful to more productive agricultural lands. And, of greater importance to the mountain dweller is the second condition characterized by the failure of many of his crops due to drought, the drying up of mountain springs and streams in mid-summer, the parched and inedible condition of the mountain grasslands from which the livestock migrates in droves or upon which it survives in only a semi-starved and worthless condition, and the seeming futility of his labours when opposed by the destructive forces of unfavourable weather conditions.

For over half a century, there has been official recognition of the need for keeping existing forest areas forested in Italy, as indicated by legislation and regulations forbidding the cutting of forests without replanting or the natural regeneration of such areas. However, the pressure for more and more grazing lands, and the harmful grazing adjacent to or along the borders of newly planted or recently cut forests tends to destroy the small trees due to trampling and browsing by livestock, with the result that the range lands increase and the forest areas decrease in size. Then, too, the pressure for more and more fuel causes the hard wood forests and many of the coniferous forests to be cut clear at a very young age, followed by artificial reforestation or by regeneration through coppice growth by sprouts from stumps and roots of the trees removed. Many such forests in the Italian mountains are cut every 8,10 or 15 years, and comparatively few forests utilized for fuelwood are permitted to reach 25 to 35 years of age. This means that the forests are prevented from performing one of their most important functions in the absorption and conservation of moisture. This important function is not too well appreciated in Italy, although the binding effect of the surface roots of the forest in conserving soil is generally acknowledged. The important results of research in the United States and other countries which confirms the relationship of forests in absorption and conservation of water needs to be confirmed through Italian experiments and publicity.

The forest litter composed of the carpet of dead leaves, twigs and small branches on the surface of the ground is the key to the forests' influence upon surface and underground waters. Water falling as rain on exposed soil dislodges particles of clay and silt through its impact, which are then washed into the tiny pores and channels between the larger particles of the soil as the water soaks downward. Thus, the openings between the soil particles are soon clogged by clay and silt ; water can no longer move downward through the soil and in consequence rushes over the surface carrying with it the looser particles, causing active erosion of the soil. A protective layer of litter prevents this action of the water by absorbing the impact of the falling rain, and after the litter is thoroughly soaked, excess water trickles gently to the soil below the litter, no soil particles are dislodged, the water remains free from sediment, and the pores and openings in the soil remain open, permitting the water to penetrate deeply into the underground channels, while surface flow is eliminated except in periods of long-continued rains. By this process, the underground water reservoirs are replenished to feed springs at lower levels and to feed moisture back into sub-surface and surface layers of the soil through capillarity.

It is entirely conceivable that restoration of a reasonable proportion of forests to many of the mountain areas could result in such remarkable changes in the control of waterflow and conservation of moisture that the reduced areas then used for grazing and crop production would be more pro-

ductive than the larger areas now utilized for those purposes. Ideally, the forests should occupy the poorer, more exposed and steeper sites, interspersed by moist, well protected meadows and small mountain farms on the plateaus, mountain benches and more gentle slopes. However, it takes time for forests to grow and re-establish the influence which has been gradually lost through their removal, and a lowered production of crops and products of the grazing lands is inevitable for some years after areas are reforested. It is for this reason that social pressure prevents withdrawal of low-production lands from grazing and cultivation for reforestation purposes. Italian technicians and social planners have accomplished marvels of land reclamation on steep, extensively-gullied clay lands where all human use had ceased and also on tidal marshes through drainage and development of lands previously inundated through ebb and flow of the tides. Such areas were without conflicting human interest to contest their changed status, and if a way can be formed to temporarily reduce the pressure of human needs from selected mountain areas, it should be possible to restore the balance between moisture, forests, mountain pastures and cultivated lands and, thus, prevent the ultimate destruction of the productivity of entire mountain districts. Italy has tremendous needs for timber, fuelwood, control of soil erosion, and for industrial employment of her people in the manufacture of commodities to be made from wood, all of which emphasize the need for forests and the growing of trees large enough to produce sawlogs, but the importance of Italy's need for high forests, as contrasted to frequently-cut brushlands exposed to the drying effect of the sun's power upon the soil through clear cutting, needs to be generally recognized. International collaboration can be helpful in providing imports of fuel and timber which will relieve the too-rapid cutting of Italian forests and in absorbing planned emigration of people from mountain zones where reforestation is a necessary phase of land improvement. In this manner, it is believed that Italy's production of crops, range animals and much needed timber products eventually can be increased with resultant ability to provide a higher standard of living for her multitudes. The attainment of this ideal, though, requires cooperation and broad understanding of objectives on international and administrative levels, as well as in the technical field, in order to effect the necessary social adjustments. Without these, the continued decline in productivity of Italian mountain areas appears inevitable, with intense grazing gradually destroying plant life on the poorer areas, followed by severe erosion and eventual exposure over the centuries of greater and greater areas of bare rock where once forests or productive farm lands existed. This has been the trend in all the older centers of civilization of the world, but the opportunity still exists for creating a new trend for ancient centers of civilization in the Italian mountains, with parallel situations worth consideration in other Mediterranean countries having somewhat similar conditions.

(By Walter J. Quick Jr., F.A.O. Forester Assigned to Italy).

RURAL WELFARE

Land Reclamation and Improvement Convention for the Venetian Regions held at S. Donà di Piave, June 6-7

On 6th and 7th June, at S. Donà di Piave, centre of the " Mediterranean Holland " the Convention for the Reclamation of the Venetian Region was held.

This is the second Convention held in 25 years. Many land reclaimers and technicians as well as Italian Scientists on Reclamation, Economy, Sociology, Hydraulics, Engineering, Agronomy, Irrigation, Medicine, etc. attended this Congress.

The first Convention held at S. Donà was the beginning of the present phase of Italian Reclamation ; during the last Convention the laws developed since then (1923 and 1933 laws) were reviewed, in order to :

(1) ascertain whether, in the light of past experience the means and institutions adopted up to date met the requirements.

(2) examine the manner whereby to transform the means and institutions according to the new developments and requirements of the Nation, after a period of social upheavals, war and destructions.

During the Convention it was pointed out that in Italy " Reclamation " means development, agricultural improvement and transformation under all aspects. Reclamation means defense and transformation of the land policy with an improvement of the agricultural production.

Reclamation, thus, is an instrument of agricultural policy, whereby the most difficult land problems can be solved, such as :

(1) reclamation of swampy and malaria land ;

(2) transformation of very large farms (*latifundia*) by breaking up the century old immobilization of local economy ;

(3) reorganization and management of mountain land, limiting emigration of the population or planning their settlement, if and when necessary, and ensuring the mountain population remaining in the area a livelihood and a minimum of comfort.

Following the general discussion which was of national importance, the Convention, among other things asked for the Venetian Region :

(1) completion of the reclamation projects already begun between the Po and Isonzo Rivers ;

(2) the immediate undertaking of work for lowering the high waters of the Adige River in order to avoid the disastrous effects of large floods ;

(3) construction of protective works along the coast in order to protect the reclaimed land against sea erosion ;

(4) planting of sufficient trees to act as shelter belts against the winds coming from the Adriatic Sea.

The Convention was important not only for local problems but also for the economic, social and political problems of the Italian Nation. Without going into the long and interesting agenda the Convention recommended, among other things, that :

Land Reclamation be carried out through a central organization, the "Azienda Autonoma per le Bonifiche" (The Autonomous Agency for Land Reclamation) with its own personnel and its own budget, examining all the Italian reclamation problems in relation to the economic, social and political utility :

Land Reclamation resume its full development in the present period in which demographic pressure and unemployment are felt more than in the past, in order to employ as many men as possible on the projects. Once the projects are completed it will be possible to give permanent work to the men on the farms ;

plans for Land Reclamation be drawn up for periods of at least ten years, financing being guaranteed by the State in order to rely on firm allocation of funds which will permit the completion and maintenance of the work and the possibility of securing the best results.

the completion of the Land Reclamation works to be done by the land owners is to be guaranteed and made compulsory, it being stated that landowners who do not fulfil their duty owing to deficiency of funds or willingness, are to be expropriated ;

that for Land Reclamation some kind of self-financing system be used, resorting to forms of forced savings which, by limiting present consumption will permit the attainment of the objective and ensure more wealth and a better standard of living for the future. This will be carried out through suitable institutions.

Land Reclamation ensure the farmers a higher standard of living and greater welfare assistance, intensifying also the rehabilitation of the farmers.

Land Reclamation be carried out by means of plans for hydrographic watersheds or for larger economic districts.

Concluding, the Convention pointed out that the undefined "Agriculture Reform" finds in "Land Reclamation", a reliable and proven institution, the stimulating element for agricultural progess, which can substitute partially or totally the owners through the "Consorzi di Bonifica" or other Settlement Agencies. These competent Agencies can carry out the projects independently from all political trends.

FAO ACTIVITIES

Third Annual Session of FAO in Geneva

At the third annual session of the Food and Agriculture Organization Conference to be held in Geneva on 25 August, a variety of constitutional questions will come before the 48 member nations present. The most important constitutional issue is raised by the recommendation of the 17 nations of the Preparatory Commission on World Food Proposals to establish a Council of FAO, or World Food Council. To help carry out this far-reaching proposal, the United States of America proposed an amendment to the FAO Constitution. The FAO Executive Committee made a proposal for setting up a Food Council along somewhat different lines. Other changes involving the structure of the Executive Committee were suggested by Australia and the United Kingdom to help strengthen the internal machinery of FAO.

The Preparatory Commission, recommending establishment of a Council of FAO, in effect asked for a new and useful mechanism to be established within the Organization. The Council

would consist of representatives from 18 governments and would sit between sessions of the annual Conference. It would keep the current world situation of food under constant review and make recommendations for action by national governments as problems arose. The work of the Council would supplement that of the Conference and enable FAO to carry out its job of fostering increased production and improved distribution of food and other agricultural products. The Council would also be able to assist governments in developing their programs and policies for food and agriculture. These would be reviewed at the annual Conference, which in effect would become a world food parliament.

Creation of a World Food Council in direct touch with member governments would enable FAO to act swiftly when an emergency arises. Decisions must be taken from day to day to adapt general policy to meet the constantly changing situation and outlook for world food and agriculture, and the related industries of forestry and fisheries. The new mechanism of the World Food Council would help the member nations of FAO to develop a dynamic world food programme through the Organization.

The amendment proposed by the United States emphasized the importance of keeping this new policy machinery within the framework of the Organization. To achieve this, an amendment to the Constitution was submitted which would have the effect of transforming the Executive Committee into a Council of FAO, with a membership of direct representatives of governments, and assigning to it in addition to the present functions of the Executive Committee, the duties outlined by the Preparatory Commission.

In reviewing the Report of the Preparatory Commission, the Executive Committee itself proposed that the entire Conference of FAO should serve as the World Food Council, and that the 18 nation body suggested by the Preparatory Commission should be a Commodity Commission of the World Food Council to deal with the co-ordination of commodity policy between the annual meetings of the larger group. The Executive Committee felt that no amendment to the constitution was necessary to put its proposal into effect, but offered a draft amendment in the event the Conference should conclude that such action was necessary.

The policy of FAO can be decided upon only at the annual Conference. At present, 15 individuals with outstanding personal qualifications are elected to the Executive Committee, which works between sessions of the Conference. The members of this Committee represent the Conference as a whole and do not act for their respective national governments.

The proposals of the United Kingdom and Australia were aimed at strengthening the structure of the Executive Committee alone, and do not directly concern the question of establishing the proposed World Food Council. Under the English and Australian proposals, governments instead of individuals would be elected to the Executive Committee by the Conference, and the governments themselves would appoint their respective official representatives on the Committee. At the discretion of governments alternate representatives could be appointed to ensure full attendance at an Executive Committee meeting.

Other constitutional items of business to be considered are a draft agreement between FAO and the International Labour Organization, a draft charter of diplomatic privileges and immunities for FAO, the permanent site of FAO, and the election of a new Director-General.

The third meeting of the European National Committees

The European National Committees held a third meeting in Rome from the 16th to the 21st of July 1947, at the invitation of the FAO Temporary European Bureau.

Delegations of the following member countries of the Organization took part in the Conference : Austria, Belgium, Denmark, Eire, France, Greece, Hungary, Italy, Luxembourg, Norway, Netherlands and Switzerland. Czechoslovakia and Roumania were represented by observers. Experts from Ireland, Poland and the United Kingdom were unable to attend the Rome meeting as they were engaged at conferences elsewhere.

A representative of the ECE was also present.

After electing the French delegate, Mr. M. Cépède, (Chief of Personnel at the Ministry of Agriculture) as Chairman of the Plenary Session of the Meeting, the delegates decided to discuss the questions set forth on the agenda in two separate Commissions. The first, the Commission for the study of general affairs, under the chairmanship of the chief Hungarian delegate, Mr. A. Sibelka - Perleberg, (Counsellor at the Ministry of Agriculture) devoted its studies to the most important questions of a general character, such as the contacts of the FAO with other international organizations in Europe. The second Commission, under the chairmanship of the head of the Netherlands delegation, Mr. J. S. Keyser, devoted its activity to the technical problems on the agenda.

The first point discussed by the delegates, was the activity of the FAO Temporary Bureau in Europe. The Commission for the study of general affairs took pleasure in pointing out that the Bureau had fulfilled its task admirably and had deeply studied the various matters raised at the second meeting of the National Committees in March 1947. In order to permit the continuation of the studies which have been already started and to achieve final results, the Commission pointed out such tasks which directly concerned the European Bureau. It was decided that besides strictly European problems, the Rome Bureau should concern itself with matters whose interest is chiefly European, as well as with those which, although of a world-wide character are best studied in Europe, in view of available documentation and other technical reasons.

The second subject on the agenda was the revival of the activities of the Food and Agriculture Sub-Commission of the ECE by the FAO. The Rome Bureau having been declared unable to continue the work of the above mentioned Sub-Commission since July 1st the meeting decided that the transfer should be effected without further delay.

The suggestion regarding world food gave rise to a lengthy debate. These proposals are the result of decisions taken by the Preparatory Commission at Copenhagen, September 1946, with a view to studying the plan presented by Sir John Boyd-Orr, Director-General, for the creation of the World Food Council. The European National Committees have suggested the examination of this matter which will be one of the most important points on the agenda at the Geneva Conference, and to present the result of their studies to their respective Governments. The delegates expressed the opinion that in order to avoid agricultural and food products being exposed to the hazards of world commerce, and to safeguard the interests of the buyers and those of agricultural producers, agreements concerning such products should be established and coordinated by a Committee for the Distribution of Agricultural Products, forming an integral part of FAO, which may eventually necessitate a reinforcement of the executive powers of FAO and a modification of its Constitution.

The Commission also examined the relationship of FAO in connection with certain other specialized International Organizations such as the ITO (International Trade Organization), and decided that it would be necessary to coordinate their activities and create a unity of ideas between them in order to prevent two organizations from presenting different solutions. Thus the Commission was particularly concerned with the fact that the Trade and Employment Charter also takes an interest in the international trade of agricultural products and foresees settlements in this sphere. Therefore the National Committees have been invited to examine the extent in which the Trade Charter takes the relative conditions of agriculture into consideration, without which world food could not be guaranteed.

The special Cereals Conference, which was held in Paris from the 9th to the 13th of July, discussed a declaration made by Mr. Cépède, which emphasized the particular importance of this Conference. The latter largely contributed towards enlightening public opinion on the world food situation and the necessity of temporarily keeping to the rationing of bread cereals in every country. The only way to stem the food crisis is to achieve an adequate distribution of available cereals in the world and establish normal exchanges of nourishing foods between the producer and consumer countries. In fact, the Commission stressed the necessity of making every possible effort so as to avoid "noble cereals" (wheat and oats) being used as cattle fodder and expressed the opinion that it was not available, as far as food for human consumption was concerned, to use "second-rate cereals" merely to reach, by this method, a satisfactory solution of the problem of cattle-feeding. On the other hand, a persistant deficit in production has proved that it was necessary to intensify the means of production wherever their usage would increase local production at once. Finally, Mr. Cépède drew the attention of the delegates to the mutual dependence existing between markets of different types of cereals, cereal markets and markets for animal products.

As to the relationship existing between ECE. (Economic Commission for Europe), and FAO, the delegates learnt with satisfaction that owing to the intervention of the Chief of the Temporary European Bureau at the ECE Conference, the latter Organization gave up the plan of creating a section for food and agricultural problems. The Commission took advantage of this occasion to express the hope that whenever any international action is planned and developed within the sphere of FAO programmes, its technical competence should be consulted rather than a new organization formed. A debate followed in which the functions of the National Committees were discussed by the delegates. The National Committees, born after the Quebec Conference, developed as new tasks arose. They will however, not be fully effective until they have been granted legal status by the FAO institutions of each member country of the Organization, it being understood that the National Committees have above all, a national character. The FAO European review "Food and Agriculture" will publish articles on the status and organization of existing National Committees, which will be studied particularly from the comparative and legislative point of view. In the interest of rendering the National Committees even more effective, the Committee for General Affairs proposed that a study-meeting be called by the

Director-General after the Geneva Conference and preferably in Rome, so as to prepare proposals on problems arising from the creation of the National Committees. Finally, in recognition of the services rendered by the European Temporary Bureau within a very short time and since the FAO headquarters have not yet been definitely chosen, the Conference expressed the wish that the Temporary Bureau be transferred into a permanent European Regional Centre. Referring to the work completed by the Commission for the Study of Technical Problems, the Conference first examined the activities of the various sections of the Temporary European Bureau and especially those of the " Information Service ". The delegates pointed out with satisfaction that it had in every way fulfilled its tasks, in spite of the limited means at its disposal. The Commission praised the efforts of the Rome Bureau with regard to publications.

The Conference then approved the " Field Services " activities (Special U N R R A Service for reconstruction); this service, which was taken over by FAO, will carry on its work up to the end of 1947.

The delegates emphasized the practical importance of the " courses " for agricultural experts organized by this Section in order to help countries which, during the war, were not able to keep themselves informed of scientific progress elsewhere. These " courses ", which will begin in August at Bergamo and Milan (Italy) and at Weybridge (England) will give experts the opportunity of exchanging views on studies which have followed different lines owing to the fact that countries were cut off from each other during the war.

The delegates then examined the general report of the first meeting of experts on Agricultural Machinery (Rome, 16-18 April, 1947) and expressed the wish that a National Technical Centre for Agricultural Machinery be formed in every member country of F A O including representatives of public authorities, farmers and agricultural machine constructors. This National Technical Centre would work in close connection with the National Committee and the national delegates of the International Commission of Agricultural Engineers, principally in order to examine scientific questions concerning the standardization of agricultural machinery. At the invitation of the French FAO National Committee, the Temporary European Bureau, together with the French Technical Centre for Agricultural Machinery will convene a preliminary meeting of Technical Centres for Agricultural machinery in Paris during September-October 1947.

The problems of animal production in Europe, which were examined by a meeting of experts from April 23rd to 25th 1947 attracted the attention of the delegates, who adopted the decisions set forth in the Final Report of this meeting of experts. The Conference hoped that the research work undertaken on methods for milk and butter recording, in artificial insemination of breeding animals, as well as on the production and needs of European member countries of FAO, might reach a successful and early conclusion and that the results obtained be published so as to facilitate the unification of methods of control on a European basis. On the other hand, the Temporary Rome Bureau has been entrusted with a study of the manner in which results of the investigation on the production and requirements of breeding and all-purpose cattle could be utilized in a practical way to facilitate the international exchange of cattle. Finally, the Technical Commission requested that a special office, attached to the Rome Bureau should have the task of supplying information on Herdbooks and of co-ordinating results obtained from organizations which control the yield of cattle. The results of this work will be submitted to the next meeting of the National Committees. The results of the investigation being undertaken by the Temporary European Bureau, which has asked the National Committees for material on the standardization of methods for keeping Herdbooks will, however, be published in a volume for the use of the Agricultural Division of FAO Headquarters. For a long time the milk industry has held the attention of the Conference, because of its importance in the future of European food and agriculture. In taking note of the General Report submitted by the first meeting of experts on milk production, (The Hague 19-20 May, 1947) the Commission estimated that the quantity of milk actually produced and consumed in Europe was apt to undergo a net rise in comparison to present statistics, and even compared to pre-war statistics. With this in view, the Temporary European Bureau has been invited to undertake investigations on the methods of distribution adopted by the principal producer countries, on the methods employed to encourage the consumption of milk, especially among vulnerable groups, (school-children, pregnant and nursing women, workmen's canteens, etc). The Temporary European Bureau will also collect information on the present availability and consumption of milk, compared to the pre-war situation, and on the prospects for the production and consumption of milk and milk products in the near future. A formal inquiry will also be held on special school education for young girls and on the technical education of milk personnel. The delegates insisted that a mixed Committee, comprising experts on nutrition and milk production, be called to a meeting in order to define the standard qualities of milk and examine the advisability of vitaminizing and pasteurizing milk. The Commission stated that the main factor at present limiting milk production, is insufficient fodder, and

above all, fodder which is rich in proteins, and recommended that a meeting of experts on fodder production and the feeding of milk-producing cattle be convened, so that a European plan of action may be drawn up on this question.

The Meeting then adopted a report submitted by horticultural experts and seconded the wish of this Session that an expert on horticultural questions be attached to the Temporary European Bureau.

Likewise, the report submitted by the agricultural accountancy experts was approved by the Commission who expressed the wish that a more extensive scientific and technical coordination be established between FAO and the National and Regional Accountancy Offices.

A particularly important item on the agenda was devoted to European fishery problems whose economic and technical aspects have until now been distinctly neglected. The Technical Commission urged the Rome Bureau to start an immediate investigation so as to obtain the following information from each member country of FAO before the Geneva Conference :

(*a*) the excess amount of fresh, smoked and preserved fish, to be exported in 1947 and 1948 ;

(*b*) the fish requirements during the last three months of 1947 and the whole of 1948 ;

(*c*) which importing countries used to form natural markets (and eventually the financial, military, technical, etc. reasons which at present prevent the renewal of this trade) ;

(*d*) the means of transport at the disposal of the exporting country (or eventually the importing country) as well as the types of delivery and length of time employed ;

(*e*) the influence of commercial agreements on the normal distribution of excess merchandise.

Finally, taking into consideration the serious world shortage of fats, the Commission recommended that the use of herrings for the production of oil and flour be encouraged : the Commission also emphasized the necessity of developing, to the maximum extent possible, all known means for utilizing this fish, as, in certain countries the maximum production of herrings will not be reached until these means of development have been employed.

With regard to European nutritional problems, the Conference also adopted the report of the Meeting of Nutrition Experts and expressed the wish that the European Bureau start an investigation on feeding programmes already in existence, making a special study of the financial, economic and practical measures adopted in the sphere of nutrition. With the intention of improving the nutrition standard of the European groups of physiological priority the Commission proposed, that the Nutrition Division of FAO, in collaboration with the nutrition institutes and similar organizations in different countries, standardize the methods employed in nutrition investigations, establish, for all groups, rules on the minimum nutritional needs and study the best and most effective manner of utilizing food stocks.

The delegates then examined the question of long term meteorological broadcasts, the use of which is of very great importance to land-workers. The Temporary European Bureau was requested to convene a meeting of experts, as soon as possible, whose mission will be that of examining the possibilities of creating more satisfactory international cooperation in this sphere with a view to broadcasting long-term meteorological forecasts, over European wireless stations, as well as information concerning the protection of land cultivations against infestation.

Finally, the Conference examined problems on sowing and new varieties of vegetables, stating the need for an international agreement on sowing certificates, on the rights of creators of new varieties of vegetables and seed recording. The Commission therefore urged the European Bureau to call a meeting of experts as soon as possible to examine the existing legislation and to suggest the ways in which it would be possible to reach an international agreement.

Statement broadcast by Mr. Cépède

" The representatives of the European National Committees of the Food and Agriculture Organization of the United Nations, are holding a meeting in Rome in the former Offices of the International Institute of Agriculture now the Temporary Bureau of FAO in Europe.

" Though the preceding meeting only dates back to March, the Rome Office has shown such activity that the mere study of its work has kept the National Committees and the Conference extremely busy. Conclusions must now be drawn from this work which will result in a rapid improvement of agriculture and, consequently, in the nutrition of Europe. The various problems to be undertaken have still to be selected in order of priority, both as regards their urgency, and the possibility of their quick realisation.

" Of all the Continents, Europe is the smallest and the one divided into the greatest number of countries ; nowhere is the need for international action so great, and nowhere else has want created such an ancient and solid tradition of colla-

boration especially in the agricultural field. The activities of the Rome Bureau, basing itself on this tradition and the devotion of its particularly competent staff, provide the Organization and even other international organizations with a magnificent lesson of efficiency.

" To this tradition and this efficiency has been added the spur of exceptional difficulties arising from the economic reconstruction to be carried out in Europe after the war, and from the meteorological disasters that European agriculture has suffered this winter.

" The Meeting consequently examined the results of the recent international Conference and in particular those of the Cereals Conference held in Paris last week.

" It took note of the technical collaboration furnished by FAO to the different European countries such as Greece, Poland and Hungary, including the continuation of UNRRA's work in this field. The Meeting was pleased with the practical action taken by FAO as well as with the technical advice it could give to groups of countries and to the Economic Commission for Europe, so that the importance of food and agricultural problems be recognized by all international economic organizations.

" Our Meeting also studied the questions which will be brought up at the Plenary Conference to be held by FAO in Geneva at the end of August. It noted the common determination of international organizations to agree on practical methods resulting in the realization of the aims set forth at the Hot Springs Conference in 1943.

" This common European determination enables us to hope that through the discussions held at the Geneva Conference FAO's worthy motto FIAT PANIS will be carried out better in the future ".

Norwegian National Nutrition Council

The Norwegian National Nutrition Council was set up by Royal Decree of August 30, 1946. It is commissioned, on the one hand, with ensuring cooperation between the institutions and bodies working with problems connected with the nutrition of the population. This Council acts as an advisory board to the ministries and public authorities in matters which come into their field of activities. At the same time, the National Nutrition Council is required, in coordination with these and other institutions, to draft reports which will be submitted to FAO. The Council is authorized to form study groups for examining special problems, and is also authorized to make suggestions to the respective ministries, and other official or private bodies or organizations. The State will supply funds to the Council, which will come under the administration of the Health and Hygiene Office, to which annual reports will have to be submitted by the Council. The Council will be composed of :

Surgeon General of Public Health. KARL EVANG. Fridtjof Nansen plass 3. *Oslo*. Chairman.

Prof. MORK. Norvegian Agricultural College, *Vollobekh*. Deputy Chairman.

Miss VALBORG ASCHEHOUG. Canning Factory Laboratory, *Stavanger*.

Mrs. INGERID ASKEVOLD, Chief of Norwegian Government's Information Office in Home Economics. Kronprinsensgt. 2. *Oslo*.

Mr. PAUL BARCA, Chief of Section, Central Bureau of Statistics. Dronningensst. 16. *Oslo*.

Mr. ROLF BJÖORNSTAD, Consultant to the Combined Office for Agricultural Economic Organization. Kronprinsenagt. 9. *Oslo*.

Mr. HARAED L. BÖRSUM, Chief Cashier. Norwegian Trade Union of Workers in Food Factories. Torggt. 17. *Oslo*.

Mrs. LILLEMOR ERKEN. Gabelsgt. 5. *Oslo*.

Mr. OTTO GALTUNG HANSEN, Chief Doctor at the Directorate of Public Health. Fridtjof Nansensplass 3 *Oslo*.

Mr. KNUT GETZ WOLD, Secretary, Cabinet Council, Ministry of Social Welfare. Victoria Terrasse. *Oslo*.

Mr. CYSTEIN GIELSBIK, Director, Office of Price Control. Rieron. Heyerdahlsgt. 1. *Oslo*.

Mr. NILS N. IHLEN, Consultant to the Norwegian Forestry Association. *Oslo*.

Mr. FRITZ LUTCHERATH, Combined Slaughtering House. *Loren. Ostre Aker*.

Mr. HAAKON NATVIG, Health Inspector. Oslo Health Council. St. Olavspl. 5. *Oslo*.

Dr. RAGNAR NICOLAYSEN, Professor of Medicine. University Institute for Nutrition Research. Karl Johansgt. 47. *Oslo*.

Mrs. AAGOT PABLE. Norwegian Housewives Association. *Al i Hallingdal*.

Mr. JOHN RINGEN, Director, Royal Society for Norway's Welfare. *Rosenkrantzgt*. 8. *Oslo*.

Dr. AXEL STRÖM. Professor of Medicine. University Institute for Hygiene. Geitmyrsveien 75. *Oslo*.

Mr. KLAUS SUNNANAA, Director of the Association for Economic Amalgamations. Akersgt. 42. *Oslo*.

Prof. GUTTORM TOVERUD. Norwegian Dental College. Geitmyrsveien 69. *Oslo*.

Mrs. BERGLIOT QUILLER WERENSKIOLD, Chief of the Experiment Department State Institute for Experimental Activities in the Home. *Stabekk*.

Secretary : Mr. OLE MJELDE, National Nutrition Council. Fr. Nansens plass 3. *Oslo*.

Directing Sub-Committee.

Surgeon-General Karl EVANG. Fridtjof Nansens plass 3. *Oslo*. Chairman.

The Council's Sub-Committee for Nutrition.

Surgeon-General Karl Evang. Chairman.

The Council's Sub-Committee for Agriculture.

Mr. John Ringen, Director of the Association for Norway's Welfare Rosenkrantzgt. 8. *Oslo*. Chairman.

The Council's Sub-Committee for Forestry.

Mr. Nilj N. Ihles, Consultant to the Norwegian Forestry Ass. Wergenlandsvn. 3b. *Oslo*. Chairman.

The Council's Sub-Committee for Fishery

Mr. Klaus Sunnanaa, Director of the Association for Economic Amalgamation. Akersgt. 42. *Oslo*. Chairman.

The Council's Sub-Committee for Investigations in Nutrition.

Professor Axel Ström, University Institute for Hygene Geitmyrsveiden 75. *Oslo*. Chairman.

The Council's Sub-Committee for Information

Mr. Rolf Björnstad, Consultant to the Combined Office for Agricultural Economic Organisations, Kronprinsensgt. 9. *Oslo*. Chairman.

The Council's Sub-Committee for Home Economics.

Mr. Bergljot Svestad, Council Consultant to the Ministry of Education and Church Affairs. Arbinagg. 7. *Oslo*. Chairman.

The Council's Sub-Committee for Bread and Grain.

Mr. Anders Johannessen, Director of the State Grain Corporation Stortingsgt. 28. *Oslo*. Chairman.

The Council's Sub-Committee for Economics.

Prof. R. Mork, Rector of the Norwegian Agricultural College. *Vollebekk*. Chairman.

F A O Mission to Poland

The Polish Government, through the intermediary of their Ambassador in Washington, has asked for an FAO Mission to visit Poland, similar to that which visited Greece last year. The purpose of the Mission will be to make a survey of the major Polish agricultural problems and to recommend a programme for the solution of Poland's food and agricultural problems to the Polish Government, with special reference to industrial, economic and technical aspects.

Preparatory work for the Mission, which was scheduled to commence its activities on July 1st in Warsaw, has been completed. Every expert on the Mission staff will have his particular co-worker appointed by the Polish Government from one of the Ministries, who will work and travel with the Mission. The Polish Government will meet all the Mission's expenses in Poland and provide translators, clerical staff, offices, accomodation and transport.

Members of the Mission will study the Polish problems in a series of field trips which will take them over all parts of the country and which will last 2 months. They will visit one of the best agricultural areas of Poland in the district of Bydgoszcz; in Pomerania the implications of the land reform will be submitted to their study and in East Prussia they will examine the difficulties of draining some 100,000 hectares of flooded land. The Mission will, of course, not travel collectively, but will be split up into small parties in order to enable its members to cover the greatest possible area of the country. Arrangements have been made for them to compare notes and exchange views among one another. Full co-operation and freedom of action has been assured to each person attached to the Mission headed by Noble Clark.

The four small parties will (probably) consist of:

(1) the agricultural administrative officer and cereal specialist;

(2) experts in livestock production and marketing;

(3) the nutrition expert and the specialist in marketing and perishable crops;

(4) an agricultural and general economist.

On completion of their research work members will confer in Warsaw at the beginning of September and will thereupon assemble in Rome for the final drafting of their report. Representatives of the Polish Government will also be there to express their opinions and views. The final report, which is to be drafted in English and French, will be submitted to the Director-General of FAO for approval before it is transmitted to the Polish Government.

Switzerland's Establishment and Organization of the National Committee

The Swiss Confederation applied for admission to the FAO on June 4, 1946, and was unanimously admitted to the Organization at the Copenhagen Conference on 3rd September of the same year. The official affiliation of Switzerland was notified by the Federal Council to the Director General of FAO in a letter of February 19, 1947.

The Swiss National Committee, with Professor F. T. Wahler as Chairman, was set up on March 11th, 1947. Its membership consists of representatives of the Federal Administration and of the leading private organizations. In the first group the following departments are represented: The De-

partment of Public Economy (Division of Agriculture and Division of Commerce) the Federal Department of the Interior (Federal Inspectorate of Forests, Shooting and Fishing ; Federal Health Service; Federal Bureau of Statistics); the Federal Department of Finance and Customs (Federal Wheat Administration ; Alcohol Monopoly) ; Federal Political Department (Division of International Organizations) ; the Federal Polytechnic School (Section of Agronomy and Section of Forestry).

On their part, the following voluntary organizations have delegated representatives to sit on the National Committee : The Conference of Cantonal Directors of Agriculture ; The Swiss Peasants Union; the Central Union of Milk Producers; The Swiss Federation of Agricultural Cooperative Societies; The Swiss Stock-breeding Federations; The Swiss Society of Foresters ; the Directorate of the Swiss Union of Commerce and Industry ; The Swiss Union of Consumers Co-operative Societies ; The Swiss Syndical Union.

LEGISLATIVE NEWS

SUMMARY: I. — NUTRITION : (*a*) agricultural products in general (Austria, Belgium, Finland, Poland) ; (*b*) cereals, flour, bread (Belgium, France, Italy) ; (*c*) meat (Belgium, Finland, France, Luxembourg, Switzerland) ; (*d*) milk and cheese, eggs (Finland, France, Norway) ; (*e*) fats (Finland) ; (*f*) potatoes (Switzerland) ; (*g*) sugar (Denmark). — II. — AGRICULTURE : (*a*) the scientific improvement of agriculture (Belgium, Luxembourg) ; (*b*) organization of agriculture (Italy, Luxembourg) ; (*c*) land-reclamation (Italy) ; (*d*) regulation of various crops (Austria, Finland, France, Portugal) ; (*e*) stock-breeding (Belgium, France) ; (*f*) diseases of animals (Switzerland) ; (*g*) agricultural machinery (Finland) ; (*h*) seeds and fertilizers (Finland, Roumania) ; (*i*) agricultural contracts (France, Italy, Switzerland) ; (*j*) measures relating to rural property (Austria) ; (*k*) agricultural credit (France). — III. — ECONOMICS AND MARKETS : (*a*) price control (Belgium, Finland, Luxemb urg, Netherlands) ; (*b*) control of foreign and domestic trade (Denmark, France, Norway) ; (*c*) marking of agricultural products (Belgium, Luxembourg). — IV. — STATISTICS (Belgium, France, Luxembourg, Portugal, Switzerland). — V. — FORESTS (France, Norway). — VI. — RURAL WELFARE : (*a*) agricultural co-operation (France) ; (*b*) agricultural labour (Belgium) ; (*c*) farm lodgings (Finland).

I. - NUTRITION

(*a*) Agricultural products in general.

AUSTRIA

By the Federal Law of March 19, 1947 (*B.G.Bl.*, 20 *St.*, *May* 6, 1947, p. 464) on the taking of the census, and on the compulsory delivery of agricultural products subject to economic control, Austrian legislation seeks to secure the stricter enforcement of the controlled economy of agricultural products, by associating with the officials who are carrying out the census and attending to the mobilization and compulsory delivery of the said products, advisory and assistance organs formed of representatives of the group engaged in production and marketing.

BELGIUM

The Decree-Law of January 30, 1947 on the regulation and marketing of foodstuffs and essential products is a measure of a general nature (*M.B.*, *No.* 34-35, *February* 3-4, 1947, p. 1089). Art. 1 states "The Minister of Food determines the raw materials, merchandise, and animals of which the marketing, consumption, and transport are regulated ; he draws up these regulations". This Decree-Law replaces the Decree-Law of November 9, 1939.

FINLAND

Legislation in Finland in the first months of the current year has dealt more especially with matters relating to food ; a number of measures have been taken which are only the specific application of the Act No. 303 of May 6, 1941 regulating the economic life of the country in times of emergency. That law lays down the principle of the compulsory delivery of staple agricultural products. Hence a Resolution of August 8, 1946 stating what products were subject to compulsory delivery, to wit : cereals, potatoes, dairy products, meat of all kinds, etc.

Subsequently a Resolution No. 50, of January 20, 1947 (*F.F.*, *No.* 50-51, *January* 28, 1947, p. 73) adds to the above list turnips and white mustard.

Resolution No. 187 of March 6, 1947 (*F.F.*, *No.* 187-190, *March* 12, 1947 p. 381) amending the Law of August 6, 1946, on compulsory delivery, fixes for each period of delivery the number of units of the products to be delivered in relation to the areas cultivated. The unit of each product to be delivered is calculated in relation to a kilogram of bread cereals.

A further amendment is made by Resolution No. 289 of April 17, 1947, (*F.F.*, *No.* 289-294, *April* 22, 1947, p. 481)) ; this requires producers to deliver bread cereals; butter and milk are not

subject to compulsory delivery, but the producers, under the regulations issued on this matter, have not the right to use them for their own needs.

POLAND

An Order of the Minister of Supplies and Trade of March 5, 1947 (*D.U.R.P., No.* 29, *March* 27, 1947, text 125) limits the consumption of bakers' products and of animal fats. Public Victuallers (restaurants, cafés, bars, snack-bars, etc.) and hotels, taverns, etc, may not serve per meal and per person more than 50 grams of bakers' products nor more than 10 grams of animal fats (in addition to the fats used in preparing the dishes). In the case of breakfasts or lunches where in addition to bread and butter nothing is served but drinks (coffee, tea, milk, etc), the maximum quantities allowed are raised to 100 gm. and 20 gm. respectively. The victuallers and hotel-keepers to whom the Decree applies are specified respectively in a Decree of November 30, 1945 and an Order of September 15, 1938.

(*b*) Cereals, flour, bread.

BELGIUM

A Ministerial Order of June 10, 1947 (*M.B., No.* 163, *June* 12, 1947, p. 5844) orders bakers, confectioners, wholesalers, warehousemen, and retail dealers in flour, to report their stocks.

FRANCE

An Order of January 7, 1947 (*J.O, No.* 10, *January* 11, 1947, p. 307) fixes the standards required in the different kinds of flour used for baking as defined by the Decree of October 24, 1946.

An Order of March 24, 1947 (*J.O., No.* 79, *April* 1, 1927, p. 3083) regulates the sale and consumption of flours, special dietary products. As from April 1, 1947, the flours and special dietary products listed below can be freely bought : extract of malt, starchy products, buckwheat flour, fruit-flours, pea-flours and other pulse flours, spiced flours for soups. The following are rationed : (*a*) wheat, rye, meslin, barley, corn and rice flours and oatmeals ; maize meal ; maize starch ; semolinas, pearled grain, corn flakes, rice flakes, toasted wheat ; (*b*) all mixed alimentary flours and in particular special dietary products, (*c*) special dietary flours, etc.

As a sequel to the Decree of April 26, 1945 on the mixing of wheat substitutes with bread flours, a Decree of the Minister of Agriculture of April 15, 1947 (*J.O., No.* 94, *April* 19, 1947, p. 3707) fixes the qualities of the maize used for baking bread.

The extraction rate of bread cereals is placed under the control of a committee set up by an Order of the Minister of Agriculture of April 21, 1947 (*J.O., No.* 99, *April* 25, 1947, p. 3906). This committee is placed under the group for the distribution of flours in conformity with the provisions of Art. 5 of the Decree of April 7, 1941, on the extraction rate of bread cereals. The chairman of the committee is the Chief of the Regional Services of the National Inter-professional Office of Cereals. The Committee examines the results of the analysis of the samples of flour and bread taken in the mills and bakeries by the inspectors of the National Inter-professional Office of Cereals or by the groups for the distribution of flours. It will ascertain whether the rules fixed for bolting flour by the decrees are respected and is also empowered to order penalties in case of infringement.

The sudden deterioration in the wheat supply situation ascertained last April made it imperative for the French Government to take further measures to reduce the consumption of flour to the level of available supplies, so as to avoid the prolonged and generalized exhaustion of the stocks. Very strict measures have been taken by the Government for the reduction of the bread ration, for the simultaneous closing of the bakers' shops one or more days a week, for the prohibition of all use of bread flours for other purposes than for baking bread.

The reduction of the bread ration by an average of 50 grams per day was ordered by the Order of April 25, 1947 (*J.O., No.* 100, *April* 26, 1947, p. 3927) as from May 1, 1947.

An Order of the Presidency of the Council of Ministers, jointly with the Ministry of Agriculture, of April 23, 1947 (*Ibidem*, p. 3927) regulates the making and sale of bread, amending articles 1 and 2 of the Oder of October 17, 1945, amended on January 21, 1946.

Only loaves of a minimum weight of 1 kg. 500 gm. and fancy bread in loaves of 700 gm. and 300 gm. may be baked, sold, and put on sale. Consequently, the baking of crescents, brioches, rolls and of all other kinds of bread and especially of bread for soups, crumb bread, " fariné " bread, *gressini*, and biscuits is forbidden.

Another Order of April 25, 1947 (*Ibidem*, p. 3927) forbids as from May 1, 1947, in all places open to the public the offer, placing on sale, and consumption of sandwiches, crust crushers, and all dishes requiring an addition of bread, diet bread, or biscuits.

An amendment made by the Order of June 16, 1947 (*J.O., No.* 143, *June* 18, 1947, p. 5646) raises the minimum weight of the loaf of ordinary bread from 1 kg. 500 to 2 kg.

An Order of the Presidency of the Council of Ministers, in consultation with the Minister of Agriculture, of April 25, 1947 (*J.O., No.* 100, *April* 26, 1947, p. 3931) orders bakers' shops, bread depots,

bakers' and confectioners' to close one day a week as from May 1 ,1947. Orders issued by the prefectures will fix for each department the day of closure, which must be the same for the whole territory of the department. The Prefects may also issue orders closing the said shops one or more additional days per week should the wheat supply situation make this necessary. The compulsory closing day is as a rule Sunday.

To make the control of the sale of bread more strict, an Order of April 25, 1947 (*Ibidem*, p. 3931) makes stricter regulations for the collection of bread ration tickets and their presentation when renewing supplies. Bakers are required to send in on the first day of each month to their departmental group for the distribution of flour, the bread tickets delivered to them during the preceding month by consumers when purchasing bread from them. These tickets are grouped in lots corresponding to a quintal of flour each, and placed in separate envelopes.

Always with a view to meeting by exceptional restrictions the shortage in the supply of cereals, the making and sale of pastry and confectionery has been limited by Orders of the President of the Council of Ministers. The first of these Orders of March 31,1947 (*J. O.*, *No.* 82, *April* 4, 1947, p. 3158) authorizes, under certain conditions, that confectionery be made using baker's flour. But the Order of April 25, 1947 (*J. O.*, *No.* 100, *April* 26, 1947, p. 3932) forbids, as from May 1, 1947, the making, offer, sale, purchase and consumption of pastry and confectionery made with baker's flour.

An Order of May 8, 1947 (*J.O.*, *No.* 152, *June* 28, 1947, p. 5927) authorizes the National Inter-professional Office of Cereals to order, in case of shortage of supplies, the transfer to bakers of flour allocated for other purposes. Moreover, the stocks of baker's flour held on the evening of April 30, 1947, to be used for making pastry and confectionery, are assigned to the bakeries. The delivery of this flour at a reduced price, entitles those who held it at the aforesaid date to receive from the indirect tax authorities compensation covering the difference between the price at which flour was sold to them for use as confectioners and that at which they surrendered it to the bakers.

The Decree No. 47-901 of May 24, 1947 (*J.O.*s *No.* 124, *May* 25, 1947, p. 4799) set up, under the, honorary presidency of the President of the Republic, a National Bread Committee whose duty it is to promote all initiatives susceptible of facilitating the collection of wheat and bread cereals.

Lastly, an Order of the Minister of Agriculture of June 24, 1947, (*J. O.*, *No.* 153, *June* 29, 1947, p. 6007) sets up, under the General Director of the National Inter-professional Office of Cereals, a Committee for supervising the quality of the semolina according to Ordinance No. 45-915 of May 5, 1945, relating to the establishment of a Committee on the quality of flour and bread, and following the Decree of January 24, 1946, fixing the rules applicable to the products delivered by the millers (*semouliers*) to the makers of edible pastes.

The Committee on the quality of the semolina flour (*semoules*) examines the reports on the analysis of the samples forwarded to its president by the regional laboratories for foods, the control laboratories for flour, and the laboratory of the French Milling School. It proposes the penalties provided by the Ordinance of May 5, 1945.

ITALY

A Decree-Law of May 30, 1947, *No.* 439 (*G. U.*, *No.* 134, *June* 16, 1947, p. 1805) containing rules regulating the compulsory delivery of wheat, barley, rye, maize and paddy rice to the "peoples' granaries" (*granai del popolo*), lays down new rules to meet the need of assuring the largest possible supplies of home-grown cereals to meet the food requirements of the population whose food is rationed, in view of limited import possibilities. This Decree provides that the aforesaid products be all blocked, from thet ime when they are harvested and stored with the producer or other owner of the product ; consequently, any contracts made relating to the growing crops are null and void. The law exempts from this block a limited quantity of the cereals harvested to be used as seed and for the consumption of the producer and his family and of the persons employed on the farm, and for feeding livestock. These quantities left at the disposal of the producer may in no case be sold or surrendered to others. All amounts in excess of the above allowances must be delivered in full to the peoples' granaries. The quantities of cereals retained for family consumption are subject to the regulations laid down by the High Commissioner for Food as regards milling. A Decree of June 16, 1947 (*G. U.*, *No.* 149, *July* 3,1947, p. 2021), following the rules laid down in 1945 for the wheat year 1945-46, has prescribed the monthly quantity which may be milled by the producers, proportionate to the amount of cereals allocated annually for the consumption of the producer and his family, and for meeting the needs of the farm.

(*c*) **Meat.**

BELGIUM

The Order of January 6, 1947 (*M. B.*, *No.* 10, *January* 10, 1947, p. 223), concerning the compulsory supply of meat, provides that farmers cultivating 50 *ares* or more are obliged to supply yearly the quantities of live cattle, horses, and pigs for meat stated in the schedule annexed to the Decree. Exceptions are foreseen for certain cases.

FINLAND

In Finland, resolutions were adopted in the early months of this year regarding the compulsory supply and control of meat. The Resolution No. 164 of February 20, 1947 (*F. F., No.* 163-171, *March* 1, 1947, p. 319), taken on the basis of the Law of May 6, 1941, quoted above, provides for the seizure of every kind of meat, both home and foreign, fit for human food.

Lastly, the Resolution No. 182 of March 4, 1947 (*F.F., No.* 181-182, *March* 2, 1947, p. 367), contains further provisions and allows exceptions to the preceding prescriptions in favour of cattle farmers, with the object of making it possible for them to meet the needs of their households. The aforesaid resolution fixes also the distribution periods.

FRANCE

An Order of January 10, 1947 (*J. O., No.* 11, *January* 12, 1947, p. 354) has set up, under the Ministry of Agriculture, a Committee entrusted with the carrying out of the plan concerning the equipment of the country with slaughter-houses, as it was determined and fixed by the Council for the Modernization and Equipment Plan. The Committee proceeds, within the framework of the equipment plan, to the examination of applications for the opening, extension, arrangement of slaughter-houses, and, in general, the study of all problems regarding the organization of slaughter-houses. The Slaughter-House Committee is composed of representatives of the administrations concerned, representatives of professional organizations, and representatives of agricultural groups.

The Decree n. 47-140 of January 16, 1947 (*J.O., No.* 15, *January* 17, 1947, p. 634) has regulated the creation of Meat Councils.

A National Meat Council is set up, which is composed of representatives of producers, consumers, and of those who have to deal professionally with cattle, meat, and its products. A Government commissioner has a seat on the Council. The National Meat Council is charged with the establishment of the meat supplies plan and with its execution. To that end, it centralizes all information concerning resources and requirements, and formulates proposals regarding programmes, importation, exportation, freezing, manufacture, storage, and consumption. It also suggests all measures concerning prices, controls the activity of the traders concerned, and proposes to the competent administrative authority the conditions regulating the delivery and withdrawal of professional cards.

GRAND-DUCHY OF LUXEMBOURG

Important measures have been taken in this country in connection with meat. They aim particularly at ensuring that the handling of the products derived from the slaughtering of animals take place under all the hygienic conditions the public has the right to require. It should be quoted in the first place the Grand-ducal Decree of January 25, 1947, (*M. L., No.* 7, *February* 8, 1947, p. 115). concerning the control of butcher's shops, public and private slaughter-houses, workshops and meat transport. That Decree contains detailed provisions regarding location, tiling and upkeep of the premises ; it determines the implements to be used, and prescribes the use of refrigerators ; it contains provisions concerning the dress worn by the personnel and forbids the employment of persons suffering from skin and contagious diseases. Butchers and pork butchers must keep registers in which besides other particulars, they are to enter the date of slaughtering or of the receipt of the goods. A control of the sanitary conditions of the premises is provided for.

The Grand-ducal Decree of January 25, 1947 (*M. L., No* 7, *February* 8, 1947, p. 119), concerning the control of meat, meat foods and similar products states in its preamble " that it is important to bring the regulation of the trade in meat foodstuffs in keeping with the progress of modern veterinary science ". It deals with the examination to which live animals to be slaughtered and meat must be subjected. After the examination, the meat can be declared fit for human food, fit under condition, or unfit for human food. In the latter case, the inspector orders its sequestration. In case of need, the bacteriological examination of the meat is made at the State veterinary laboratory in Luxembourg.

Two Ministerial Orders of January 27, 1947 (*M. L., No.* 7, *February* 8, 1947, p. 124 and 143), taken on the basis of the Decrees mentioned above, supplement by detailed provisions the general prescriptions of the latter. The prescriptions on the control of meat apply also to fish, shell-fish, and molluscs.

Still in connection with meat, we have to quote the Ministerial Order of February 13, 1947, regarding the prohibition to slaughter sucking pigs (*M. L., No.* 10, *February* 24, 1947, p. 190). The reason for that measure is the need of " encouraging the fattening of pigs for slaughter ".

SWITZERLAND

By Ordinance of March 7, 1947 (*R. L. F., No.* 10, *March* 13, 1947, p. 144) the importer of meat must obtain an authorization delivered by the competent cantonal authority upon the advice of the federal veterinary office. In general, meat consignments and live animals must be examined by the frontier veterinary surgeons. In doubtful cases, they take samples and send them to the federal veterinary office, to the competent cantonal laboratory or

to the institute of veterinary pathology. Particular measures apply to the different kinds of meat (including fish, frogs, tortoises, shell-fish, and molluscs).

(*d*) Milk and cheese, eggs.

FINLAND

Since milk and dairy products occupy an important position among agricultural products from the point of view of human nutrition, mention must be made of three resolutions concerning the regulation of milk. The first, No. 10, of January 7, 1947 (*F. F.*, *No.* 10-11, *January* 13, 1947, p. 9) fixes the quantity of milk in proportion to the cultivated hectares which is subject to compulsory delivery for each commune separately. Likewise, Resolution No. 38 of January 23, 1947 (*F. F.*, *No.* 38, *January* 25, 1947, p. 49) fixes the maximum prices for cow's milk, both whole and skimmed, to be delivered. This is also the case as regards the different kinds of cheese, the delivery of which is regulated by the Resolution of the Supply Ministry No. 43, of January 23, 1947 (*F. F.*, *No.* 39-43, *January* 25, 1947, p. 62).

FRANCE

The Ordinance No. 45-1581 of July 17, 1945, had radically amended the whole legislation concerning the supply of dairy products. In consequence of that order the deliveries of milk and dairy products are fixed in proportion to the number of cows on each holding and to the litres exigible per cow. The milk cows of producers having fulfilled their obligations will be exempted from requisition in connection with meat supplies. By Decree of April 1, 1947 (*J. O.*, *No.* 89, *April* 13, 1947, p. 3431) concerning the departmental census of cows, it is laid down that the results of the agricultural inquiries carried out in the spring and autumn of 1945 in pursuance of the Order of the Ministry for Agriculture of April 10, 1945, are considered as a valid basis for the cow census in connection with milk deliveries until a new census has been ordered.

The free marketing of eggs has been restored as from January 18, 1947, by an Order of January 14, 1947 (*J. O.*, *No.* 16, *January* 18, 1947, p. 701). The producers, breeders, and cooperative societies of products are authorized to forward and sell eggs without any limitation as to quantity or weight. The eggs may be freely transported without being accompanied by circulation permits. They will be sold at prices freely agreed on between buyers and sellers, but traders in livestock must exhibit their prices for eggs sold by the piece.

NORWAY

It should be recalled that in Norway, in the field of legislation regulating milk production, a Resolution of February 14, 1947 (*N. L.*, *No.* 7, *February* 20, 1947, p. 66) adds a few new provisions to the important Law No. 6, of July 10, 1936, which is still in force and the text of which was reproduced in full in the *Annuaire International de Législation Agricole*, published in 1936. The Law of 1936, which aimed at encouraging the sale of agricultural products, imposed a tax on every person selling directly to consumers, dairies, cheese-dairies, etc., the milk obtained directly from the producer. The above mentioned Resolution fixes the said tax at 0,25 *öre* for cow's and goat's milk supplied directly to consumers or to the aforesaid dairies during the period from March 1 1947 to February 29, 1948.

(*e*) Fats.

FINLAND

The Resolution No. 384 of May 8, 1947 (*F. F.*, *No.* 384-388, *May* 18, 1947, p. 621) makes liable to seizure edible fats, home produced or imported, with the exception, however, of those which the cattle-owners concerned reserve for the needs of their households and get from the slaughtering of their own domestic animals.

(*f*) Potatoes.

SWITZERLAND

The Decree of the Federal Council of June 9, 1947 (*R. L. F.*, *No.* 23, *June* 12, 1947, p. 487) deals with the utilization of the 1947 potato crop and the supply of the country. The Alcohol Monopoly, " to utilize the crop of the country without distilling it ", is authorized to grant subsidies for the transport of potatoes ; it may take measures fit to ensure the preservation of stocks and regulate the use of potatoes for forage and in industry. It fixes the price for table potatoes of the early and half-early varieties. It can make provisions concerning delivery. Credits are assigned to the Alcohol Monopoly to cover the additional expenses it will incur owing to the said measures.

(*g*) Sugar.

DENMARK

For Denmark, as regards human nutrition, mention should be made of the important Law No. 73, of March 15, 1947, (*L.A.*, *No.* 16, *March* 27, 1947, p. 92), enforcing a regulation for sugar, which, however, is only temporary.

II. - AGRICULTURE

(*a*) The scientific improvement of agriculture

BELGIUM

Mention must be made of two measures destined to promote the scientific improvement of agriculture. There is, firstly, the Regent's Decree of February 23, 1947 (*M. B., No.* 106, *April* 16, 1947, p. 3904), regulating the compilation of the budget and accounts of the Institute for the promotion of scientific research in industry and agriculture. There is, then, the Decree-Law of February 28, 1947 (*M.B., No.* 121, *May* 1, 1947, p.4478), creating the Geotechnical Institute of the State. That Institute had already been founded in 1941, but owing to the nullity, pronounced on February 15, 1946, of the decree of the secretaries general which has established it, it had become urgent to renew its legal existence. Art. 3 determines the functions of the Institute : " The purpose of the Institute is to carry out upon the spot and in the laboratory all geotechnical experiments connected with the problems of soils and foundations, and to formulate the appropriate conclusions ".

GRAND-DUCHY OF LUXEMBOURG

An important measure has been taken in the domain of science. The Minister of Agriculture has issued the Ministerial Order of April 16, 1947 (*M. L., No* 21, *April* 26, 1947, p. 363), setting up a Study and Research Committee for seed selection. Art. 1, regarding the aims to be pursued by that Committee, states : " Its purpose will be to study all problems connected with the production of selected seeds, the choice of varieties, the methods of selection, and to make suggestions regarding these subjects to the Minister of Agriculture. The latter may submit to the Committee, for its advice, all questions of a scientific, technical, or organziational character related to the same subjects ".

(*b*) Organization of agriculture.

ITALY

The National Secretariat of the Mountain, which was suppressed in 1936, has been revived by a Decree-Law of May 3, 1947, No. 383 (*G. U., No.* 122, *May* 30, 1947, p. 1636).

The furniture, technical instruments, and the whole assets existing upon the liquidation of the former Secretariat have been transferred to the new institution, which, having legal status and being subject to the rules of the civil code regarding private juristic persons, has succeeded the former Secretariat in all its rights and obligations. The Ministry of Agriculture and Forest has been authorized to assign a 15 million lire subsidy to that institution with a view to facilitating its start.

GRAND-DUCHY OF LUXEMBOURG

Regarding the organization of agricultural services mention should be made of the Grand-Ducal Decree of January 30, 1947, regulating the conditions for engaging and examining the agents of the Administration of Agricultural Services, and of the Ministerial Order of February 1, 1947, establishing the detailed programmes of the examination for admission to the preliminary training and for the definite admission of the agents of the Administration of Agricultural Services (both in *M. L., No.* 8, *February* 18, 1947, pp. 155 and 159).

(*c*) Land reclamation.

ITALY

A Decree-Law of January 1, 1947, No 319 (*G. U., No.* 111, *May* 17, 1947, p. 1430) has set up a special committee, charged with fixing and coordinating policies concerning land reclamation. The duties of that committee, as determined by the law, consist particularly in giving advice on any proposals regarding : (*A*) the classification of the land reclamation districts (*comprensori*) ; (*B*) the revision of such classifications ; (*C*) the expropriation of land belonging to owners who have not fulfilled their obligations in respect of land reclamation ; (*D*) the intervention of land reclamation associations to substitute defaulting landowners. The Committee has also to give advice on the questions specified by the Decree, if required by the Ministry of Agriculture and Forests.

(*d*) Regulation of various crops.

AUSTRIA

With the purpose of promoting the cultivation of plants, the Federal Law of December 12, 1946 (*B. G. Bl.*, 10. *St.*, *February* 26,1947, p. 309) provides for the establishment, under the Ministry of Agriculture and Forestry, of a register of cultivated plants. By cultivated plants are meant agricultural and horticultural plants, medicinal plants, and flowers, but not trees, shrubs, and vines. Registration may be effected for plant varieties constituting a novelty or an improvement, and which are not yet on the market at the time registration is requested, and also for varieties already on the market, but having a particular importance from the point of view of plant growing. Within the Ministry, a Committee for the registry of cultivated plants will be set up, which will decide on the registration of plant varieties.

FINLAND

Regarding agriculture generally, there are in Finland several interesting measures. Among these, mention must be made of the Resolution of the Ministry of Agriculture of March 10, 1947, No. 222 (*F. F., No* 217-225, *March* 22, 1947, p. 422) and of the Decree of April 25, 1947, No. 332 (*F. F., No.* 328-340, *May* 3, 1947, p. 559), which regulate the question of the distribution of prizes for new crops, thereby demonstrating the encouragement the Government intends to give to production.

FRANCE

With a view to developing the cultivation of wheat and rye and to facilitate to producers the equipment of their holdings, the Decree No. 47-239 of February 1, 1947 (*J. O., No.* 29, *February* 2, 1947, p. 1156), provides for the grant of certain advantages in kind to the producers of wheat and rye. Every delivery of wheat or rye to the pool during the crop year 1946-1947 will entitle the producers to the assignment of so called " equipment " points. These will confer on the recipients priority rights in connection with the purchase of agricultural equipment goods and objects professionally useful to them.

The Order of March 14, 1947 (*J. O., No.* 64, *March* 15, 1947, p. 2438), fixes the procedure for the assignment of the " priority points ", affording producers of bread cereals to procure the necessary industrial articles and products.

By Order of March 5, 1947 (*J. O., No.* 70, *March* 22 1947, p. 2710), an Advisory Committee for cereal seeds has been set up under the Direction of agricultural production. The purpose of the Committee is to coordinate the activity of the various organizations or services interested in the production of cereal seeds, and to establish a general programme of action with the object of improving the production of cereal seeds as regards both their quality and quantity. The Committee will distribute among the various organizations or services the tasks to be undertaken for the realization of the programme decided on. The Committee, presided over by the Director of the agricultural production, is composed of representatives of the following organizations : general association of wheat producers, national interprofessional group of seeds (cereal section), national union of agricultural (cereal) co-operative societies ; national federation of agricultural technicians ; national interprofessional office of cereals ; national institution for agronomic research. Scientists or professional men particularly qualified for the study of special problems regarding cereal seeds may be called upon to sit on the Committee.

Another Order, of April 18, 1947 (*J. O., No.* 99, *April* 25, 1947, p. 3906), fixes the composition and functions of the Committee for hard wheats. The Committee is set up with the Central Council of the National Interprofessional Office of Cereals. Its purpose is to give all useful advice on measures concerning the production, processing and utilization of hard wheats, of both home and Algerian production, on the traffic in hard wheats and grits between North Africa and the mother-country, and on the quantities of hard wheats and grits which should be imported or exported.

PORTUGAL

In Portugal the Law No. 2021, of May 21, 1947 contains provisions regarding unauthorized vine plantations (*D. d. G.*, 1*st Series*, *No.* 115, *May* 21, 1947, p. 445). The Law considers as vines also the young or new vines obtained by layers, cuttings, etc. The owner of unauthorized plantations may ask for an inspection. If the latter shows that, except for the lacking authorization, the plantations conform to the legislation in force, that they were made on appropriate soil and with traditional varieties, such plantations will be legalized, and the owner will only have to pay a tax of 1 *escudo* for each vine. If the inquiry leads to an adverse conclusion, then the person concerned will have to pay a fine of from 2 to 7.50 *escudos* for each vine stock or young vine, or he will have to uproot the vines immediately in conformity with the rules prescribed by the authorities.

Certain provisions concern the maximum amount of the fine provided for in the Decree-Law of February 21, 1944, art. 1, and its relation with the land-tax.

For the purpose of a re-examination of the whole legislation on vine yards, with particular regard to the production of quality wines, the law provides for the appointment by the Government of a Committee composed of representatives of the General Direction of Agricultural Services and of representatives of the regional winegrowers. The Committee will have to give its opinion within 90 days from that of its nomination.

(*e*) Stock-breeding.

BELGIUM

The help of the State to breeders is substantiated by the Regent's Decree of February 8, 1947, regulating the subsidies allowed to the societies of cattle-breeders (*M. B., No.* 67, *March* 8, 1947, p. 2386). A special committee, designated as " Technical Committee of Stock-breeding ", is attached to the administration of agriculture for the study of the measures to be adopted in the interest of stock-breeding. The Committee may be called upon by the Minister to intervene in the execution of the measures taken in virtue of the Decree. Sub-

sidies are granted to societies having the purpose of improving the live-stock. A sum, which is not to exceed 1,250,000 francs, is provided in favour of all the Provincial Federations of Stock-breeders Syndicates. The amount to be allocated to each one of the nine existing federations will be fixed, for four years, on the basis of the bulls, cows, and heifers existing in their respective provinces.

FRANCE

The Decree No. 47-561 of March 27, 1947 (*J. O.*, *No.* 75 *March* 28, 1947, p. 2886), regulates herd-book associations. The Decree substitutes and repeals all preceding regulations, particularly those enacted in 1932 and 1936. It establishes, with the Ministry of Agriculture, three different registers, that is, (1) a register of approved herd-books, (2) a provisional register of herd-books, and (3) a register of special herd-books.

The Ministry of Agriculture puts a "visa of quality origin" on the inscription certificates regularly delivered by the herd-book associations, inscribed in one of the three registers established with the Ministry of Agriculture. Subventions may be granted to herd-book associations, provided they were constituted according to the legal provisions, that their purpose be to contribute to the improvement of French breeds of animals and to give the maximum guarantee as to the value and origin of the animals belonging to the aforesaid breeds, that their statutes be approved by the Minister of Agriculture, and that the herd-book kept by them be inscribed in one of the registers established with the Ministry of Agriculture.

Among the conditions of a technical character, the Decree determines in particular that the herd-book must relate to a well defined and sufficiently fixed breed, the utility of which is recognized by the Ministry of Agriculture, and that the standard of the breed must be described in precise terms.

The Order of April 4, 1947 (*J. O.*, *No.* 92, *April* 17, 1947, p. 3614), contains detailed rules for carrying out the provisions of the Decree of March 27, 1947, particularly those concerning the entry for cancellation of a herd-book in one of the registers opened at the Ministry of Agriculture, regarding the associations keeping a herd-book, how herd-books should be kept, etc.

(*f*) Diseases of animals.

SWITZERLAND

The Order of February 18 and 25, 1947 (*R. L. F.*, *No.* 7, *February* 25, 1947, p. 110, and *No.* 8, *February* 27, 1947, p. 119), complete the list of diseases considered as epidemic animal diseases.

(*g*) Agricultural machinery.

FINLAND

A Resolution of the Supply Ministry, No. 74, of January 23, 1947 (*F. F.*, *No.* 74-78, *February* 3, 1947, p. 94), fixes the maximum amount of compensation for the hire of agricultural machines and for animal traction.

(*h*) Seed and fertilizers.

FINLAND

Resolution No. 209, of March 10, 1947 (*F. F.*, *No.* 207-211, *March* 15, 1947, p. 406) makes a few amendments in the resolution regulating the marketing of chemical fertilizers and forage-phosphates.

ROUMANIA

In Roumania the Order No. 364, of March 4, 1947, deals with the supply of seed to farmers (*M. O.*, *No.* 55, *March* 7, 1947, p. 1762). Farmers are free to stock and transport, within the limits of their departments, the seed they need, under an authorization which is delivered by the chiefs of the agricultural districts only to those whose names are included in the tables established with the communal economic committees and for the quantities fixed in the said tables. These authorizations are delivered either to individual farmers or to groups of farmers. Moreover, certain departments, specified in the Order, are combined in groups, and in such cases the farmers can procure their seed in the wider area of such a group or region, with the exception, however, of wheat, maize, and rye. Other provisions concern the departments that have suffered from drought, and highlands departments. In such cases, the stocking and transport of the seed needed by a farmer are under an authorization of the Chamber of Agriculture, delivered in accordance with certain rules established by the Authority in command of drought control. These authorizations, granted in respect of individual communes or groupes of communes, are also based on the tables of the communal economic committees, and the total quantity allowed by them must not exceed the figure approved by the Minister of Agriculture for the department concerned.

(*i*) Agricultural contracts.

FRANCE

Art. 42-*bis*, which has been added by the Law of April 13, 1946, to the Ordinance of October 17, 1945, relating to the legal status of a farm lease, entitles the tenant to hunt and shoot on the farm leased. If the tenant does not want to exercise

that right, he must let the lessor know by registered letter with acknowledgement of receipt. The Decree No. 47-211 of January 16, 1947 (*J. O., No.* 18, *January* 20-21, 1947, p. 863), states the conditions under which the above article is to be enforced, and makes hunting by the tenant conditional on compliance with the laws and by-laws on that sport. The lessor may not claim from the tenant any additional rent in respect of hunting rights. The notice that the tenant does not want to exercise his right to hunt must be sent to the lessor before the 1st of July preceding each hunting season. Any hunting done by the tenant on the land leased, deprives him of the right of renouncing his hunting rights.

The right of a lessor to refuse renewal of a farm lease had been regulated by art. 33 of the farm lease statute, an article originally established by the Ordinance of October 17, 1945, but subsequently repealed and substituted by the Law of April 13, 1946. Now, the Law No. 47-656 of April 9, 1947 (*J. O., No.* 86, *April* 10, 1947, p. 3337), aims at making the provisions of art. 33 clearer by the addition of two interpretative paragraphs establishing : (1) that the refusal to renew, based on the exercise of the right to retake possession, may be submitted, within four months from the notice to quit, to the decision of the competent Paritetic Tribunal ; (2) that the dismissal may not be confirmed if the tenant can show that the lessor who claims the right of refusal is unable to effectively and permanently operate the farm.

ITALY

By the Decree-Law of April 1, 1947, No. 273 (*G.U., No.* 101, *May* 3, 1947, p. 1332), all crop sharing contracts have been extended till the end of the crop year 1947-48, while farm lease contracts concluded with direct operators have been extended till the end of the crop year 1948-49.

The extension of contracts of the former class is moreover excluded when the grantor (*concedente*) declares that he himself or a son of his intends to cultivate the holding directly, on condition, however, that the working capacity of the family be sufficient. Another reason for excluding extension is the intention of the grantor to carry out drastic and immediate alterations in the farm, the execution of which is incompatible with the continuation of the contract. In the case of farm leases, their extension is excluded not only for the reasons above stated, but also when they have been drawn up after the publication of the Decree, or, in the case of the lease of pasture lands when made for a period of less than one year. Of course the extension of these leases does not exclude the introduction of amendments consequent on the conclusion of new collective agreements.

A Decree-Law of April 1, 1947, No. 277 (*G.U.*, No. 102, *May* 5, 1947, p. 1338) recognizes the validity for the crop-years 1943-44 and 1944-45 of the agreements, compromises, and liquidations relating to the conversion into cash of farm rents of all kinds as agreed on between lessors and tenants before the Law took effect. It likewise recognizes the validity of the agreements relating to the conversion of cash farm rents into rents payable in kind, and their adjustment to changes in the price of farm products. This concession does not lay down any conditions as regards the form or the period in which the agreement was concluded.

Disputes arising about these agreements are judged by arbitral committees which fix the rents on an equitable basis. These Committees, which are set up in connection with the Courts, in arriving at their decisions are required to take into account the special covenants of the lease, the yield of the holding, and the considerations forming the basis of the compromises and agreements freely accepted.

Under a Decree-Law of May 27, 1947, No. 495 (*G. U., No.* 141, *June* 24, 1947, p. 1895) a board of arbitration has been set up in connection with the Court in the chief town of each province. This Board has the duty of modifying the Provincial metayage agreements in conformity with the conditions contained in the award given by the Hon. De Gasperi and the rules laid down for its interpretation, introducing any amendments called for by the special conditions of each district. These Boards have been authorized to take more favourable measures in respect of those land-owners who possess only a small holding and who have been seriously injured by the war.

The Committee act on the request of associations of members of the groups concerned, involved in disputes with other associations.

The award given by the Hon. De Gasperi, to which the Decree-Law in question refers, was the result of a request addressed on March 3, 1946, by the Italian General Confederation of Labour to the Hon. De Gasperi, asking him to arbitrate in the disputes relating to metayage agreements of long standing, more especially in Tuscany and Emilia. The award given by the Hon De Gasperi could not, however, have legal force as the Confederation of Agriculturists had not conferred on him a mandate to decide on the matter.

SWITZERLAND

On the matter of farm leases, mention must also be made of the Federal Decree of June 2, 1947, repealing a previous one authorizing the termination of farm-leases in advance of the date fixed, if they had been concluded in view of the

fulfillment of the obligation placed on the farmers to extend crop areas (*R. L. F., No.* 22, *June* 5, 1947, p. 477).

(*j*) Measures relating to rural property.

AUSTRIA

With a view to eliminating the effects of the law on hereditary farm holdings, Austrian legislation has adopted the system of a gradual return to the old Austrian inheritance laws. As provided by the Law of March 21, 1947, on the enforcement of the Law of 1945 for the repeal of the said Law on hereditary farm holdings, and the legislation on the utilization of land (*B. G. Bl.*, 24 *St.*, *May* 28, 1947, p. 561), all the regulations set up on the basis of the repealed measures remain, generally speaking, intact in so far as they to not run counter to the conceptions of a democratic juridical system. Only those juridical relations which are unjust from the point of view of the life of the peasantry will be annulled or will be offset by the grant of compensation to the injured party. A period of three years is foreseen by the Law for making the transition from one system to the other. On the termination of that period, entries in the land register relating to hereditary farm holdings will be cancelled *ex officio*. All rights accruing to the parties concerned under the aforesaid Law will terminate within three years from the date on which the new Law comes into force.

The provisions of the legislation on hereditary farm holdings are no longer applied when, although an estate was opened before that law came into effect, the assignment had not yet been made at that date. A similar rule applies to testamentary dispositions in so far as they comply with Austrian law. Proceedings relating to inheritances, based on peasant law of inheritance which are pending will be continued.

In this manner the former system of succession based, as regards farm property, partly on the provisions of the general inheritance laws, and partly on the laws regulating the inheritance of farm holdings of the Tyrol, and on the law of transmission in full of Carinthia, has been reestablished in Austria. The two special legal provisions above referred to (Tyrol and Carinthia) are laws implementing the Act of 1889 introducing special measures regulating the succession to medium-sized farm holdings. That Act however provided only the framework within which the legislation of the several Austrian *länder* was to develop. It remains to be seen whether the development of special legal systems regulating the inheritance of farm holdings will have received a new stimulus from the measures taken in this transition period. The measures for supervising agricultural holdings or tenant farms taken under the decree issued to assure the enforcement of the decree whose purpose was to secure the full utilization of all lands, will cease to have effect three months from the date on which this law comes into operation.

(*k*) Agricultural credit.

FRANCE

An Order of January 13, 1947 (*J. O., No.* 15, *January* 17, 1947, p. 646) modifies the distribution of the resources of the *Crédit Agricole*. Henceforth, 37 per cent. of these resources will be available for middle term loans ; 35 per cent. for long term loans to individuals ; 28 per cent. for long term collective loans. A deduction of 35 million francs will however first be made from the fund, to be used for loans to agricultural credit banks or to the central organizations of the provident societies for the natives in Algeria, Morocco, and Tunis.

Art. 83 of the Law of December 23, 1946, providing for the opening of provisional credits to meet ordinary budget expenses authorized the Minister of Finance to place at the disposal of the *Caisse nationale de crédit agricole* advances for a maximum amount of 1 milliard francs, to facilitate the granting of long term loans by the *Crédit agricole*. Now, a Decree No. 47-386 of March 3, 1947 (*J. O., No.* 55, *March* 5, 1947, p. 2049), divides that sum in two parts, and orders 250 million francs to be used for granting Ordinary long term loans to individuals, and 750 million francs to be used for granting long term collective loans to enable agricultural cooperative societies and their unions to carry out works for equipment.

The *Caisse Nationale de crédit agricole* will reimburse in thirthy years the loans thus obtained from the Minister of Finance, and will pay interest at the rate of 2 per cent. per annum.

The maximum amount of the loans which the Minister for Finance is empowered to place at the disposal of the *Caisse Nationale de crédit agricole* has been raised from 1 to 2 milliard francs hy art. 35 of the Law of March 30, 1947 (*J. O., No.* 78, *March* 31, 1947, p. 3029). Following that increase, the Decree No. 47-1012 of June 5, 1947 (*J. O. No.* 134, *June* 7, 1947, p. 5242), established a new distribution of that credit, assigning 500 milion francs for granting ordinary long term loans to individuals and 1,500 million francs for granting long term collective loans.

The Order of May 23, 1947 (*J. O., No.* 129, *June* 1, 1947, p. 5062), has raised from 1,250,000,000 francs to 2 milliard francs the limit within which the *Caisse nationale de crédit agricole* is authorised to draw upon the account opened in its favour by the Treasury, with a view to facilitating middle-term credit operations.

An Agreement of February 6, 1947, between the Minister of Finance and the *Caisse nationale de*

crédit agricole (*J. O.*, *No.* 139, *June* 13, 1947, p. 5492) authorizes that Bank to raise through the issue of bonds, a loan for the purpose of facilitating the grant of ordinary long-term loans by mutual agricultural credit organizations. The bonds will be redeemed in twenty years from the date of issue. They will not bear interest, but will be repaid in due course at double their issue price.

An Order of February 14, 1947 (*J. O.*, *No.* 139, *June* 13, 1947, p. 5492) fixed the conditions under which the 20 years bonds of the *Caisse Nationale de crédit agricole*, may be redeemed before maturity.

III. - ECONOMICS AND MARKETS

(*a*) Price control.

BELGIUM

Numerous Belgian legislative measures deal with the regulation of prices, more especially as regards dairy products (Ministerial Order of May 30, 1947, *M. B.*, *No.* 152, *June* 1, 1947, p. 5548), powdered milk, cheese (Ministerial Order of May 6, 1947, *M. B.*, *No.* 158, *June* 7, p. 5685), home grown seeds of leguminous plants (Ministerial Order of March 7, 1947, *M. B.*, *No.* 74, *March* 15, p. 2886), and cattle feeds (Ministerial Order of January 19, 1947, *M. B.*, *No.* 31, *January* 31, p. 996). Other measures make price reductions, namely for beer and canned and preserved vegetables (Ministerial Order of February 12, 1947, *M. B.*, *No.* 47, *February* 16, 1947, p. 1610). Certain wines, liqueurs (Ministerial Order of February 25, 1947, *M. B.*, *No.* 60, *March* 1, 1947, p. 2133), and coffee (Ministerial Order of April 1, 1947. *M. B.*, *No.* 114, *April* 24, 1947, p. 4209) are brought under the normal price régime. In the case of fertilizers, the ministerial decree of March 28, 1947, frees the trade in nitrogenous fertilizers and their compounds from control (*M. B.*, *No.* 93, *April* 3, 1947, p. 3460).

FINLAND

In the field of agricultural economy, a Resolution of the Council of Ministers, No. 21, of January 14, 1947 (*F. F.*, *No.* 21-29, *January* 18, 1947, p. 25) regulates the application of the Law on the funds assigned for the equalization of prices. Moreover, the rules for the general regulation of Finland's economic life during the emergency period, which had been issued on May 6, 1941, have been completed by Law No. 257 of April 3, 1947 (*F. F.*, *No.* 257-266, *April* 10, 1947, p. 453), which deals with the various points of the aforesaid Law, as regards the production, trade, and marketing of all essential commodities and their importation, their prices, quality requirements, etc.

GRAND-DUCHY OF LUXEMBOURG

« The comparative abundance of certain products allows of the return to more liberal regulations as regards the formalities for fixing or approving prices... » we read in the preamble to the Ministerial Order of March 28, 1947, which provisionally liberates certain commodities from the price-fixing and approving formalities of the Price Office (*M. L.*, *No.* 18, *March* 31, 1947, p. 308). Among foodstuffs, the Order specifies poultry and game. The Ministerial Order of June 19, 1947 (*M. L.*, *No.* 30 *June* 25, 1947, p. 601) completes the list by the addition of some other products (fish, spices, certain fruits and dry vegetables, certain wines, confectionery).

NETHERLANDS

In Netherlands a Law of May 24, 1947 (*Stbl.*, *No. H.* 156, *June* 10, 1947), authorizes provisional measures to be taken in the case of infringements of the provisions relating to prices. Under this Law, in case of serious complaints against a person charged with infringing some of those provisions, and when the interests the provision was to have protected demand immediate action, the authority on whom the Decree No. E 135, of 1944 on the repression of economic offences, confers the duty of repression, may prior to or during the court proceedings, and as a temporary measure (*a*) order that the defendant's shop be closed and his business stopped ; (*b*) prohibit him from exercising a given profession. The defendant must first be heard in his own defence. The measures thus taken will remain in force until they are revoked by the magistrate or by the qualified court, or until the case has been definitively decided. The measures taken under letter (*a*) will however cease to be valid six months from the date of the order.

(*b*) Control of foreign and domestic trade.

DENMARK

In Denmark mention must be made of the Law No. 118 of March 22, 1947 (*L. A.*, *No.* 21, *April* 26, 1947, p. 145) whose purpose is to control strictly the exportation of agricultural produce, with a view to keeping it as far as possible in the country. In fact, the Law of March 22 decrees that no exports of agricultural produce may be made without the consent of a special committee to be set up for that purpose under the Ministry of Agriculture.

FRANCE

The Law No. 47-650 of April 9, 1947 (*J. O.*, *No.* 86, *April* 10, 1947, p. 335), introduces a buyer's card for dealers in livestock and meat.

The business of buying livestock, butcher's meat and pig meats may only be carried on by

professional dealers provided with a personal buyer's card delivered by the prefect, on the advice of the departmental meat council. The number of such cards issued in each department may not exceed, for each professional category, the number of the persons registered in the trade register on September 2, 1939. As from the date of the promulgation of the Law, professional dealers may not open new livestock or butchers' businesses. The card is valid for one year, but it may be renewed for successive period of like length.

The Order of May 9, 1947 (*J. O.*, *No.* 112, *May* 10, 1947, p. 4335) as amended by the Order of June 3, 1947 (*J. O.*, *No.* 132, *June* 5, 1947, p. 5166), established for livestock dealers the conditions for the delivery and withdrawal of the buyer's card introduced by the Law No. 47-650 of April 9, 1947. Only those persons in whose names buyer's cards have been issued may purchase livestock for slaughter or other purposes. After June 30, 1947, professional dealers and organizations and establishments qualified to buy from the producers without recourse to middlemen, but who are not in possession of the above card, will render themselves liable to prosecution under Law No. 45-1484 of June 30, 1945 for ascertaining, prosecuting and repressing infringements of the economic legislation, should they purchase livestock for slaughter.

NORWAY

In this country a Royal Resolution of April 18, 1947 (*N. L.*, *No.* 14, *April* 28, 1947, p. 217) issued on the basis of the Law No. 3 of June 27, 1924, regulating the trade in concentrated feeding stuffs for live-stock and chemical fertilizers, contains new regulations relating to importers and dealers in the products in question.

Any person importing, manufacturing, or directly or indirectly selling concentrated feedingstuffs or chemical fertilizers is required, before starting his business, to inform the Ministry of Agriculture and is bound to keep registers in a proper form for the purpose of inspection. Samples of imports of the aforesaid products, must be taken in the case of parcels weighing over 500 kilos. Other provisions regulate the description of the goods, their marking, the guarantees to be furnished, and quality requirements.

(*c*) Marking of agricultural products.

BELGIUM

The Regent's Decree of March 19, 1947, regulates the preparation and marketing of milk (*M. B.*, *No.* 113, *April* 23, 1947, p. 4147). It is particularly concerned with the marks to be affixed on the containers holding " whole milk ", " standardized milk ", " skimmed milk ",

GRAND-DUCHY OF LUXEMBOURG

Regarding beverages, mention should be made of the Ministerial Order of November 8, 1946, creating a national brand for spirits (*M. L.*, *No.* 2, *January* 16, 1947, p. 10). The concession of this brand is entrusted to a committee of four appointed by the Ministry of Agriculture. The president of the committee is the director of the Agricultural Chemistry Station in Ettelbruck.

In the sector of milk economy mention should be made of the Ministerial Order of June 3, 1947 (*M. L.*, *No.* 30, *June* 25, 1947, p. 598). amending chapter 5 of the Ministerial Order of December 30, 1938, concerning the enforcement of the Grand-Ducal Decree of December 29, 1938, relating to the organization and rehabilitation of milk economy. It deals particularly with the national brand for Luxembourg butter. All dairies will have to participate in butter competitions as from July 1, 1947. Two types of butter are created. Type *A* is " Pasteurized Butter of Rose Brand ", type *B* is " Butter of Rose Brand ".

IV. - STATISTICS

BELGIUM

First of all we have the Order of February 20, 1947, (*M.B.*, *No.* 64, *March* 5, 1947, p. 2230) regarding the census of cultivated lands on March 15, 1947, preparatory to the agricultural and horticultural census of May 15, 1947. The Order of April 21, 1947, concerns the said agricultural and horticultural census of May 15, 1947 (*M.B.*, *No.* 120, *April* 30, 1947, p. 4440). Every individual or body operating at least one *are* of land or possessing an animal must be included in the census, which is carried out, under the direction and control of the mayors, from May 16 to June 4, 1947. The Agricultural Census Committee has to verify the execution of the census and the accuracy of the declarations. The National Institute of Statistics has the superintendence over the census.

FRANCE

An Order of the Ministry of Agriculture dated April 29, 1947 (*J.O.*, *No.* 105, *May* 3, 1947, p. 4138), ordains that every cereal producer has to make a declaration, from the 1st to the 10th of May, 1947, to the "mairie ,, of the commune in which his farm or establishment is situated. The declarations will be entered by the secretary of the communal committee for agricultural statistics in the cultivation register "Cereal Area ". These data will be utilized for the inquiry tending to gather, from the farmers and the communal committees for agricultural statistics, the information required for the elaboration of Government measures and the working of the administrative services.

The duties, organization, and functioning of the various organs of the National Institute for Statistics and Economic Studies created by articles 32 and 33 of the Finance Law No. 46-854 of April 27, 1946, are fixed by the Decree No. 47-834 of May 13, 1947 (*J.O.*, *No.* 115, *May* 14, 1947, p. 4472) as public administration rules.

The National Institute of Statistics and Economic Studies for the Metropolis and Over-seas France comprises a general direction and regional directions.

The general direction is constituted by the following central services : general statistics ; conjuncture and economic studies ; population inventories; economic inventories; statistical and economic information ; mecanography and administrative service. In addition, several executive organs are directly attached to the director general, namely the general inspection, the secretariat, the practical school for the training of the Institute's specialized personnel, etc.

The general statistics service is the organ for studies and scientific research. The purpose of this service is to prepare the plans of statistical work, general statistical inquiries or sampling, and all population, economic or social censuses, to superintend their execution, and to analyze and publish their results. It is the task of the general statistics service to compile and publish the chief index-numbers relating to the economic situation of the country and to centralize and co-ordinate the statistics established by all public administrations and services in France, and to publish the results by means of periodical publications (yearbooks and bulletins).

The conjuncture and economic studies service has to observe the economic situation in France and abroad, and to prepare publications relating to the French economic situation.

The inventory services draw up the statistical, economic and population inventories, and keep them posted up to date, and along with the service of mechanography they make use of the information thus collected, etc.

Lastly, it is the task of the statistical and economic information service to collect, keep up to date, and make use of the information at the disposal of the Institute.

The regional offices of the National Institute of Statistics and Economic Studies are organs whose duty it is to execute in their respective localities any work ordered of them by the General Direction of the Institute.

With a view to assuring the general co-ordination of the statistical work prescribed by the Law of April 27, 1946, and the Decree of June 14, 1946, regulating the functions and organization of the National Institute of Statistics and Economic Studies, the latter has been authorized by Decree No. 47-963 of May 29, 1947, (*J.O. N* . 127, *May* 30, 1947, p. 4984), to delegate, in consultation with the Minister concerned, one or more of its representatives to serve with each ministerial department.

GRAND-DUCHY OF LUXEMBOURG.

The Minister of Economic Affairs has issued the Ministerial Order of March 31, 1947, ordering a survey of areas and a census of fruit trees and livestock (*M.L.*, *No.* 19, *April* 15, 1947, p. 322).

PORTUGAL

In this country, the Order No. 11849 of May 21, 1947, creates — under the National Institute of Statistics — a Commission for the study of the plan for the censuses of production and of distribution which are to be taken in 1950 with the 9th Population Census (*D.d.G.*, *1st Series*, *No.* 115, *May* 21, 1947, p. 446).

The Commission will be formed as follows : the director of the National Institute of Statistics, chairman ; the vice-president of the Corporative Technical Council ; the Directors General of the following services : agriculture, stock-breeding, forests and waters, commerce and industry. Should these Directors be prevented from attending they may name superior officials to replace them.

Each of these services, moreover, shall have a delegate of its own ; the delegates, with the representative of the National Institute as President shall meet as often as may be necessary for the execution of the decisions of the Commission. The Institute will furnish the necessary accessory services.

The plan of the census will be submitted to the Government not later than December 1, 1947.

SWITZERLAND

An Order dated April 16, 1947, of the Federal Wartime Food Office prescribes a census of crops (*R.L.F.*, *No.* 15, *April* 17, 1947, p. 330).

V. - FORESTS

FRANCE.

With a view to ensuring the reconstitution of the French forest estate, law No. 46-2172 of September 30, 1946, sets up a National Forestry Fund to finance afforestation and reafforestation works, the working and conservation of forests, the most profitable use of forest products, and in general all measures aiming at increasing forest resources. The Ministry of Agriculture is entrusted with the administration of the fund which is fed with the proceeds of a tax levied both on the produce of forests and the products of saw-mills. The rate

of the tax will be fixed by the Minister of Agriculture jointly with the Minister of National Economy and the Minister of Finance within the maximum limit of 10 per cent.

The Decree No. 47-471 of March 3, 1947 (*J.O.*, *No.* 54, *March* 3-4, 1947, p. 2001) contains the rules governing the enforcement of the above law.

To organize the work of afforestation or reafforestation on private estates, whether they be subject or not to the forestry laws and to ensure the utilization and preservation of woodlands, the Minister of Agriculture may, according to the circumstances of each particular case, either grant subventions in cash or in kind, or grant loans, or proceed to the execution of the necessary works.

The maximum amount of cash subventions is fixed at 50 per cent. of the total expense incurred on account of afforestation, reafforestation or forestry equipment operations, or on account of acquisitions of material destined to protect the forest against fire and rodents. In respect of afforestation and reafforestation operations, the subventions granted to any one owner may not exceed 50,000 francs. The maximum amount of subventions in kind allowed on account of acquisitions of material destined to protect the forest against insect pests, is fixed at 80 per cent. of the total expense. Subventions in kind may likewise be granted, up to 50 per cent. of the total expense, to facilitate the functioning of the departmental or interdepartmental forest firemen corps.

The grant of subventions in kind (seeds or saplings) is foreseen for afforestation and reafforestation operations. Finally, at the request of owners, the Ministry of Agriculture may carry out the whole or part of the operations connected with afforestation, reafforestation, replanting, and forestry equipment. It may also grant loans out of available resources of the National Forestry Fund, for the purpose of ensuring the preservation and most advantageous utilization of woodlands, and to avoid premature or abusive exploitation and the splitting of estates, particularly in the case of successions or divisions.

An Order of the Ministry of Agriculture of June 14, 1947 (*J.O.*, *No.* 142, *June* 16-17, 1947, p. 5320), contains the rules for the enforcement of the Decree above referred to, particularly as regards the general plan of expenses, the departmental schemes, the requests for subventions lodged by individuals, and the appeals in case of disagreement on the departmental plan.

NORWAY

Concerning Norwegian agricultural legislation in the sector here considered, mention must be made of the rules issued on May 8, 1947 (*N.L.*, *No.* 18, *May* 22, 1947, p. 305), in respect of the marketing of lumber. The new rules establish that all agreements on the sale of standing trees are subject to the authorization of the Ministry of Agriculture.

VI. — RURAL WELFARE

(*a*) Agricultural co-operation.

FRANCE

The Decree No. 47-199 of January 16, 1947 (*J.O.*, *No.* 17, *January* 19, 1947, p. 779) sets up, under the Presidency of the Government, a High Council of Co-operation, whose duty it is to study the situation of co-operation, to suggest to the Government any useful measure tending to facilitate the development of the various co-operative organizations, and to establish a permanent connection between the different forms of co-operative action.

(*b*) Agricultural labour.

BELGIUM

The Decree-Law of November 15, 1945, had instituted the National Fund to help workers to refurnish their homes, the purpose being to grant workers a special subvention destined to assist them in refurnishing their homes heavily damaged by the war. But farm workers did not benefit under that scheme. The Decree-Law of February 28, 1947 (*M.B.*, *No.* 83-84, *March* 24-25, 1947, p. 3043), makes them partake of that assistance by extending to farm workers the advantage of the help given to refurnish workers' homes. The workers of "agricultural undertakings" are to benefit by it. "By 'agricultural undertakings' for the purpose of this decree-law are meant: agricultural undertakings in the proper sense, stockbreeding undertakings, fish-breeding undertakings, and all other undertakings connected with agriculture, with the exception of horticultural and forestry undertakings".

(*c*) Farm lodgings.

FINLAND

A Finnish Law No. 151, of February 28, 1947 (*F.F.*, *No.* 151-162, *March* 1, 1947, p. 301), deals with the housing of workers engaged in forestry or timber floating operations. It is established that employers having hired workers for the execution of the aforesaid operations, are bound to provide suitable lodgings for them, whenever such workers have to do their job in places far away from inhabited localities.

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